THE

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AND

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Citizens Retiring to the Country.

IN a former volume we offered a few words to our readers on the subject of choosing a country seat. As the subject was only slightly touched upon, we propose to say something more regarding it now.

There are few or no *magnificent* country seats in America, if we take as a standard such residences as Chatsworth, Woburn, Blenheim, and other well known English places—with parks a dozen miles round, and palaces in their midst larger than our largest public buildings. But any one who notices in the suburbs of our towns and cities, and on the borders of our great rivers and railroads, in the older parts of the Union, the rapidity with which cottages and villa residences are increasing, each one of which costs from three, to thirty or forty thousand dollars, will find that the aggregate amount of money expended in American rural homes, for the last ten years, is perhaps, larger than has been spent in any part of the world. Our Anglo-Saxon nature leads our successful business men always to look forward to a home out of the city; and the ease with which freehold property may be obtained here, offers every encouragement to the growth of the natural instinct for landed proprietorship.

This large class of citizens turning country-folk, which every season's revolution is increasing, which every successful business year greatly augments, and every fortune made in California helps to swell in number, is one which, perhaps, spends its means more freely, and with more of the feeling of getting its full value, than any other class.

But do they get its full value? Are there not many who are disgusted with the country after a few years' trial, mainly because they find country places, and country life, as they have tried them, more expensive than a residence in town? And is there not something that may be done to warn the new beginners of the dangers of the voyage of pleasure on which they are about to embark, with the fullest faith that it is all smooth water?

We think so: and as we are daily brought into contact with precisely this class of citizens, seeking for and building country places, we should be glad to be able to offer some useful hints to those who are not too wise to find them of value.

Perhaps the foundation of all the miscalculations that arise, as to expenditure in forming a country residence, is, that citizens are in the habit of thinking everything in the country *cheap*. Land in the town is sold by the foot, in the country by the acre. The price of a good house in town is, perhaps, three times the cost of one of the best farms in the country. The town buys everything: the country raises everything. To live on your own estate, be it one acre or a thousand, to have your own milk, butter and eggs, to raise your own chickens and gather your own strawberries, with nature to keep the account instead of your grocer and market woman, that is something like a rational life; and more than rational, it must be cheap. So argues the citizen about retiring, not only to enjoy his *otium cum dignitate*, but to make a thousand dollars of his income, produce him more of the comforts of life than two thousand did before.

Well; he goes into the country. He buys a farm, (run down with poor tenants and bad tillage.) He builds a new house, with his own ignorance instead of architect and master builder, and is cheated roundly by those who take advantage of this masterly ignorance in the matter of bricks and mortar; or he repairs an old house at the full cost of a new one, and has an unsatisfactory dwelling forever afterwards. He undertakes high farming, and knowing nothing of the practical economy of husbandry, every bushel of corn that he raises costs him the price of a bushel and a half in the market. Used in town to a neat and orderly condition of his premises, he is disgusted with old tottering fences, half drained fields and worn-out pastures, and employs all the laboring force of the neighborhood to put his grounds in good order.

Now there is no objection to all this for its own sake. On the contrary good buildings, good fences, and rich pasture fields are what especially delight us in the country. What then is the reason that, as the country place gets to wear a smiling aspect, its citizen owner begins to look serious and unhappy! Why is it that country life does not satisfy and content him? Is the *country*, which all poets and philosophers have celebrated as the Arcadia of this world,—is the country treacherous? Is nature a cheat, and do seed-time and harvest conspire against the peace of mind of the retired citizen?

Alas! It is a matter of *money*. Everything seems to be a matter of money now-a-days. The country life of the old world, of the poets and romancers, is cheap. The country life of our republic is *dear*. It is for the good of the many that labor should be high, and it is high labor that makes country life heavy and oppressive to such men—only because it shows a balance, increasing year after year, on the wrong side of the ledger. Here is the source of all the trouble and dissatisfaction in what may be called the country life of gentlemen amateurs, or citizens, in this country—"it don't pay." Land is cheap, nature is beautiful, the country is healthy, and all these conspire to draw our well-to-do citizen into the country. But labor is dear, experience is dearer, and a series of experiments in unprofitable crops the dearest of all; and our

citizen friend, himself, as we have said, is in the situation of a man who has set out on a delightful voyage, on a smooth sea, and with a cheerful ship's company; but who discovers, also, that the ship has sprung a leak—not large enough to make it necessary to call all hands to the pump—not large enough perhaps to attract anybody's attention but his own, but quite large enough to make it certain that he must leave her or be swamped—and quite large enough to make his voyage a serious piece of business.

Everything which a citizen does in the country, costs him an incredible sum. In Europe, (heaven save the masses,) you may have the best of laboring men for twenty or thirty cents a day. Here you must pay them a dollar, at least our amateur must, though the farmers contrive to get their labor for eight or ten dollars a month and board. The citizen's home once built, he looks upon all heavy expenditures as over; but how many hundreds—perhaps thousands, has he not paid for out-buildings, for fences, for roads, &c. Cutting down yonder hill, which made an ugly blotch in the view,—it looked like a trifling task; yet there were $500 swept clean out of his bank account, and there seems almost nothing to show for it. You would not believe now that any hill ever stood there—or at least that nature had not arranged it all, (as you feel she ought to have done,) just as you see it. Your favorite cattle and horses have died, and the flock of sheep have been sadly diminished by the dogs, all to be replaced—and a careful account of the men's time, labor and manure on the grain fields, shows that for some reason that you cannot understand, the crop—which is a fair one, has actually cost you a trifle more than it is worth in a good market.

To cut a long story short, the larger part of our citizens who retire upon a farm to make it a country residence, are not aware of the fact, that capital cannot be profitably employed on land in the Atlantic states, *without a thoroughly practical knowledge of farming*. A close and systematic economy, upon a good soil, may enable, and does enable some gentlemen farmers that we could name, to make a good profit out of their land—but citizens who launch boldly into farming, hiring farm laborers at high prices, and trusting operations to others that should only be managed under the master's eye—are very likely to find their farms a sinking fund that will drive them back into business again.

To be happy in any business or occupation, (and country life on a farm is a matter of business,) we must have some kind of *success* in it; and there is no success without profit, and no profit without practical knowledge of farming.

The lesson that we would deduce from these reflections is this; that no mere amateur should buy a large farm for a country residence, with the expectation of finding pleasure and profit in it for the rest of his life, unless, like some citizens that we have known—rare exceptions—they have a genius for all manner of business, and can master the whole of farming, as they would learn a running hand, in six easy lessons. Farming, in the older states, where the natural wealth of the soil has been exhausted, is *not* a profitable business for amateurs—but quite the reverse. And a citizen who has a sufficient income without farming, had better not damage it by engaging in so expensive an amusement.

"But we must have something to do; we have been busy near all our lives, and

cannot retire into the country to fold our hands and sit in the sunshine to be idle." Precisely so. But you need not therefore ruin yourselves on a large farm. Do not be ambitious of being great landed proprietors. Assume that you need occupation and interest, and buy a small piece of ground—a few acres only—as *few* as you please—but without any regard for profit. Leave that to those who have learned farming in a more practical school. You think, perhaps, that you can find nothing to do on a few acres of ground. But that is the greatest of mistakes. A half a dozen acres, the capacities of which are fully developed, will give you more pleasure than five hundred poorly cultivated. And the advantage for you is, that you can, upon your few acres, spend just as little or just as much as you please. If you wish to be prudent, lay out your little estate in a simple way, with grass and trees, and a few walks, and a single man may then take care of it. If you wish to indulge your taste, you may fill it with shrubberies, and arboretums, and conservatories, and flower gardens, till every tree and plant and fruit in the whole vegetable kingdom, of really superior beauty and interest, is in your collection. Or, if you wish to turn a penny, you will find it easier to take up certain fruits or plants and grow them to high perfection, so as to command a profit in the market, than you will to manage the various operations of a large farm. We could point to ten acres of ground from which a larger income has been produced than from any farm of five hundred acres in the country. Gardening, too, offers more variety of interest to a citizen than farming; its operations are less rude and toilsome, and its pleasures more immediate and refined. Citizens, ignorant of farming, should, therefore, buy small places, rather than large ones, if they wish to consult their own true interest and happiness.

But some of our readers, who have tried the thing, may say that it is a very expensive thing to settle oneself and get well established, even on a small place in the country. And so it is, if we proceed upon the fallacy, as we have said, that everything in the *country* is cheap. Labor is dear; it costs you dearly to day, and it will cost you dearly to-morrow, and the next year. Therefore, in selecting a site for a home in the country, always remember to choose a site where nature has done as much possible for you. Don't say to yourself as many have done before you—"Oh! I want occupation, and I rather like the new place—raw and naked though it may be. *I will create a paradise for myself.* I will cut down yonder hill that intercepts the view, I will level and slope more gracefully yonder rude bank, I will terrace this rapid descent, I will make a lake in yonder hollow." Yes, all this you may do for occupation, and find it very delightful occupation too, if you have the income of Mr. Astor. Otherwise, after you have spent thousands in creating your paradise, and chance to go to some friend who has bought all the graceful undulations, and sloping lawns, and sheets of water, natural, ready made—as they may be bought in thousands of purely natural places in America, for a few hundred dollars, it will give you a species of pleasure-ground-dyspepsia to see how foolishly you have wasted your money. And this, more especially, when you find, as the possessor of the most finished place in America finds, that he has no want of occupation, and that far from being finished, he has only begun to elicit the highest beauty, keeping and completeness of which his place is capable.

It would be easy to say a great deal more in illustration of the mistakes continually made by citizens going into the country; of their false ideas of the cost of doing everything; of the profits of farming; of their own talent for making an income from the land, and their disappointment, growing out of a failure of all their theories and expectations. But we have perhaps said enough to cause some of our readers about to take the step, to consider whether they mean to look upon country life as a luxury they are willing to pay so much a year for, or as a means of adding something to their incomes. Even in the former case, they are likely to underrate the cost of the luxury, and in the latter they must set about it with the frugal and industrious habits of the real farmer, or they will fail. The safest way is to attempt but a modest residence at first, and let the more elaborate details be developed, if at all, only when we have learned how much country life costs, and how far the expenditure is a wise one. Fortunately, it is *art*, and not nature, which costs money in the country, and therefore the beauty of lovely scenery and fine landscapes, (the right to enjoy miles of which may often be had for a trifle,) in connection with a very modest and simple place, will give more lasting satisfaction than gardens and pleasure grounds innumerable. Persons of moderate means should, for this reason, always secure, in their fee simple, as much as possible of natural beauty, and undertake the elaborate improvement of only small places, which will not become a burden to them. Millionaires, of course, we leave out of the question. They may do what they like. But most Americans, buying a country place, may take it for their creed, that

Man wants but *little* land below,
Nor wants that little *dear*.

TO GUARD TREES AGAINST HARES AND RABBITS.

BY J. GIRARDIN, FRANCE.*

All gardening amateurs know, by experience, that rabbits and hares are very fond of the bark of young apple trees of a year's growth, and especially of dwarf apple trees, of which the most vigorous and healthy, are always attacked the first, because the bark is more tender and savoury.

As soon as the ground is covered with snow, these animals, finding nothing to nibble in the fields, begin their devastations in the gardens; if they are numerous, and the snow is abundant, a few nights will suffice to ruin completely the most beautiful plantation, and destroy the result of several years' labor and care. Only a short time since, three hundred fruit trees in the gardens and orchards of a land owner in the village of Othel in the province of Hanover, in Belgium, were entirely stripped of their bark.

Fortunately, nothing is easier than to shelter one's trees from the attacks of these marauders, that are protected by the law; the following method is employed by M. le Baron Vander Straeten de Waillet, for six or seven years, with entire success:

He infuses about two pounds of quick lime, in nearly three gallons of water; he throws several handsful of soot into this liquid, and stirs it until these two substances are thoroughly mixed. He then makes a paste of a handful of fine rye flour and binds it in

* Translated for the Horticulturist, from the Circle pratique d'horticulture de la Seine Inferieure.

the form of a brush, upon a stick, and with this mixture he covers the branches and the trunk of his trees, from the ground to the height of at least a yard; as, if the snow should be heaped up at the foot of the trees, by the wind, the hares could by its help, attain a greater height on the bark of the tree.

This mixture applied quite warm, possesses the additional advantage of keeping the bark in a state of preservation and health, and preventing the growth of moss, of which the effect is often injurious, and which is always disagreeable to the sight.

It is best to use this means of protection early in November, during a dry season, which will allow the mixture to adhere to the bark while drying. If there should be rain during the operation, or immediately after, the trees would be washed and it would have to be repeated.

If it should be done during a frost, there would be but little chance of success. The plaster with which the bark had been covered might be thrown off in a thaw. If, however, by want of prudence, the operation is overtaken by the frost, and it is necessary to act quickly, it may be done with success, by selecting that time of the day when the trees are most exposed to the direct rays of the sun.

Twelve pints of this mixture will be sufficient to protect 3 or 400 dwarf trees against the hares or rabbits, and may be obtained for a few cents worth of lime and one day's labor of an active man. This method is equally infallible for preserving the grafts of all nursery trees.

J. GIRARDIN.

HINTS FOR COUNTRY HOUSES.

SEE FRONTISPIECE.

WE have engraved for our frontispiece this month, a view of a very interesting old English building—known as *Hayes Farm*, in Devonshire. It is doubly interesting to us. First, as having been the birth place of the celebrated Sir WALTER RALEIGH—whose name is always associated with the early history of America; in the second place, as a good example of a style of respectable country house still very common in England. Simple in character, built of solid materials, of ample size, and full of substantial comfort; it seems to us a better type to study, and a better hint for a model, than most of the over-decorated cottages and villas at present so much the fashion. Of course, it is only a hint, for some of the details are faulty, but the expression is genuinely that of a substantial country house that has no pretension which it cannot fulfill, and which aims at being nothing which it is not in reality. We like the simplicity of the solid walls of stone roughcast, the plain gables and windows, and the ample porch. Diminish the size of this house to suit our wants, and add a veranda, and a more appropriate style for a country house in the northern states, is not easily attained.

THE CURLED LEAF ON THE PEACH TREE.

BY C. E. GOODRICH, UTICA, N. Y.

In the culture of peaches here, an evil has been encountered for the last two years, which, so far as I have experience, is new. You are doubtless aware that the elevation of this part of the state, and its distance from large bodies of water, make its climate at best, much cooler than at Buffalo, Albany, and Boston, which lie nearly on the same parallel. Hence the culture of peaches here, at best, is difficult. The evil to which I refer is the "curled leaf." There is a "curled leaf" noticed by DOWNING, which is described as a trivial evil, and is, by him, ascribed to an insect. But the evil which I am now about to describe is very formidable, and has resulted in my own case, in the almost entire destruction of the peach crop. I do not know its extent. I have heard of its existence in various parts of this state and in Ohio. A native of England told me recently that he had seen it there.

In the spring, of 1845, I planted peach-stones, derived from a source now forgotten, if it was ever ascertained. It would have been wise to assure myself that they were from the north or west, since, both theoretically and practically, such stones are preferable to those brought from the south. Some of these trees were budded with choice varieties, named in the books; others were permitted to produce natural fruit. From the time they began to flower, (in their third and fourth years,) until two years since, the great obstacle encountered was the severity of the winter's cold, it being found that the depression of the thermometer to from 10° to 15° below zero, for a few days, was pretty sure to destroy the vitality of nearly all the fruits buds. For the last two years I have encountered a new evil—the "curled leaf."

The immediate facts in the case are these. Within one week, (sometimes a little less or more,) after the trees are in full bloom, a red color, (at first very pale,) is seen upon the young rosettes of leaves. This indication advances rapidly, sometimes over a single branch, but usually over the whole tree, involving from a few leaves to nearly the whole of them, according to the severity of the attack. The circulation seems paralyzed, so that the young shoots do not extend themselves; the leaves rapidly thicken, curl up, turn whitish, pale, green, yellow, or almost any color, and acquire three or four times their proper weight, become covered with insects in some cases, and soon drop off, carrying with them whatever fruit had set. After this, in severe cases, the whole or a part of the tree dies; but more commonly new leaves put out, especially from the extremity of the branches, and from dormant buds, and soon clothe the whole tree with verdure. In a few cases, more severe still, the tree dies in its first efforts to develop its leaves, which never expand enough to show much curl of the leaf or the red tinge.

The Cause of the Curled Leaf.—It has been charged to insects, but my microscope, (which is the kind called a "cloth prover,") and is of one inch focal distance, detects none There *are* insects seen in the later stages of the evil, among the convolutions of the leaves, but they evidently came there as they seek out other decaying vegetable or animal matter, to find food and a home; and were no how the cause of the curl.

One thing is obvious to slight observation, that is, *that the evil arises from within the bud or tree itself*, since the moment the leaves begin to expand, they are seen in many cases to be taking on a sickly state. It should not be forgotten, too, that all this takes place at an earlier period than insects show themselves to any extent.

The disease, for such I certainly consider it, is obviously the result of severe and un-

timely weather, and admits of a ready and satisfactory explanation. Its history, in connection with the state of the weather, during the last spring, will, I think, set this matter in a clear light, and will show, moreover, that the peach suffers this liability to disease in common with most tropical and semi-tropical trees and plants, and is closely allied to one, (the most common) form of the potato disease.

From March 22d to April 1st, inclusive, the weather was very unusually warm, the thermometer standing on the 30th at 75°. The gooseberry was rapidly coming into leaf, and the cherry and the peach were almost bursting into flower. I said to my family at this time, "these trees must suffer. They cannot flower safely now, nor yet be safely retained in their swollen state until the ordinary time of flowering," which is here usually between the 10th and 15th of May.

On the 2d of April commenced a season of cold and damp weather, (occasionally exhibiting both frost and snow,) which continued exactly thirty-six days, i. e., until 8th of May. On that day began a season of warm, impulsive weather, which brought the peach into full bloom upon the 13th, i. e., in five days. Those buds that had been most excited late in March, never opened. On examination they exhibited the elementary parts of the flower in a dry and friable condition. The flowers which opened, exhibited various degrees of health. A few of them set fruit, but the most of them blasted. The same general course was run by the *leaf buds*. A few whole trees, and many single branches on others, never fully expanded the leaf buds, but died in the effort. A few trees were scarcely affected at all. Between these two extremes was every degree of suffering by the curled leaf, the first exhibition of which began to appear on the 15th, three days after the trees were in full flower. In one week after the first appearance of the curl, it was fully developed, as the season advanced with great rapidity.* What farther relates to this subject, I will detail under the following particulars:

1. The *glandless* varieties, as a class, were far less affected than the *glanded*. Indeed, the most of those were affected either in a small degree, or not at all. Now this is just what might have been expected. The glandless varieties always suffer from mildew on the extremity of the branches late in the summer, the effect of which is to dwarf the tree slightly, and so render the growth more firm, and insure the earlier maturity of the bud. There will thus be less soft and sappy wood, and fewer feeble buds on such trees. My *glanded* trees were nearly all affected, the most of them badly.

2. Some glanded trees that were very strong growers, *whose fruit buds have stood the severe cold of winter better than any others*, suffered very severely. This may seem strange and contradictory, but admits, I think, of a ready explanation. These trees had well matured their buds, and so stood the winter well while dormant; but the vigorous character of the tree caused a proportionate early and vigorous start of the circulation in the spring. This prepared them to feel a check in the circulation more fatally than trees of less constitutional vigor, which started somewhat later, and less vigorously.

As an illustration of this second fact, I observe that I have five seedling glanded trees, all very rank growers, one an early fruit, one somewhat late, and three very late, which,

* Very similar was the weather in 1850. The winter had been unsteady and very mild. From April 24th to 27th, there were four very warm days, the thermometer rising to 76. Then it became cold and windy. By the first of May the buds which had been prematurely excited and then chilled, began to fall off. The flowers opened about the 12th, and the leaf buds developing immediately after, showed signs of curled leaf. From the 17th to the 21st, inclusive, the weather was severe, exhibiting both frost and snow. Frost was subsequently reported as having occurred during these severe days, in Canada, Boston, New-Haven and New-Jersey. Since 1812 we have suffered no untimely warm weather in the spring, equal to 1850 and 1851. The weather from the 4th to the 8th of April, inclusive, in 1844, came the nearest to it. We have not, therefore, had the *same causes* of curled leaf, at least for many years, as in 1850 and '51.

year by year, both before and since the advent of the curled leaf, have stood the winter well, and have been uniformly covered with flowers; and yet they have suffered peculiarly from the ravages of the curled leaf for two years past. The "Teton de Venus" also, though its fruit buds have not stood the winter well, is a very strong grower, and drops its leaves in good season in autumn, yet it has been almost ruined by the curled leaf.

3. In all cases where the center leaves of the bud when it first opened, exhibited the curl, the shoot beneath never elongated at all, or not more than an inch or two, and then the whole withered and died under the curl.

4. In those cases where *the center* of the bud did not exhibit the curl, the shoot elongated regularly, although as it grew there might be curled leaves at the base, and along the sides of it. Such branches flourished, being a little dwarfed until they cast off the diseased leaves.

5. In a few cases the points of the shoots, and at other times the side and base leaves, were found diseased with the curl *in mid-summer*. In all such cases there was a clear connection between these diseased manifestations and the state of the weather.

6. *Each one of my trees*, (I have five or six hundred,) so far as I have observed, *has a definite proportional liability to the curled leaf;* that is, the tree that suffered severely, slightly, or not at all last year, suffered similarly this year.

7. I think also, (although my attention has not been so definitely directed to that point as to some others,) that those trees that are most liable to be heated in a calm warm day, and subsequently to be severely chilled by cold wind, are also most liable to be affected by curl. All this is consistent with another fact, that half hardy trees, of which the peach is one, do undoubtedly succeed best when their position, on the whole, is a cool one, and as little exposed as possible to changes of weather.

8. So also, sickly trees are found in succeeding years, to be particularly exposed to the curl. This results obviously from the fact that its whole vigor is reduced.

9. When first beginning to curl, the whole leaf, but particularly the *foot stalks*, *ribs*, and *glands*, exhibit a high degree of transparency, and usually a redness. This, on examination with the microscope, exhibits no *insect, egg, puncture, or other irregularity*, often not even the curl, in the very young state of the leaf. Its growth, also, for a few days, seems nominally rapid. What strikes the observer is the *transparency* which seems to reveal almost the whole interior circulation of the leaf; the wax-like smoothness of the surface of the young leaves; the reddish tinge; the early disposition to curl. This last disposition is sometimes seen in the tendency of the two opposite halves of the leaf to adhere to each other, and at others, in the edges of the leaf to corrugate, just as in that form of the potato disease that is caused by chills at a later period in the summer. The progressive enlargement of the leaf, its endless contortions, its changes to various colors, but especially *the studding of its surface with delicate velvety blotches, of a most beautiful texture and coloring*, are all very noticeable facts. These velvety blotches are undoubtedly a fungus formation, not however, I think, of a parasitic character. Soon these progressive manifestations are finished, as the leaf blackens, dies and falls.

May we not derive some illustration of the *mode* of atmospheric influence in this case, from the condition of leaves generally, in autumn. Then, when the light and heat are no longer such as to satisfy the normal requirements of vegetation, when especially the downward progress of vegetation has been hastened by severe and sudden frost, we see the same discoloration and death. In the autumn, however, the deposition of woody matter in the leaf is complete. Hence, when those atmospheric changes come that paralyze the circulation, and give to chemical law the mastery over vital energies, and the sap becomes

acid, the leaf is not transparent, as in the spring, when the tissues were thin and imperfect, and the whole leaf was little more than an aggregation of thin vessels filled with watery juices.

So of the curled leaf in the spring. The sap was excited at an untimely period, and then, instead of being permitted to perform its proper office, that of expanding the flowers, leaves, and shoots, it was held in check thirty-six days this year, (though less than that period in 1850,) and followed in the case of last year, by severe frost and snow. The condition of the sap became necessarily morbid, as naturally and truly as in the parallel case of an animal overheated and subsequently chilled. In the latter case feebleness, and it may be fever or sores, follow as the natural proof of diminished vital energy, or morbid condition. In the case of the peach this year, when the circulation revived, or at least was greatly accelerated, on the 8th of May, the depraved state of the sap was seen in the feeble flower and the sickly leaf, to say nothing of the buds which fell off, and the branches that died without developing flowers and leaves at all,—buds, flowers, and branches, which, before the untimely excitement of the circulation in March, were as promising as any other.

Remedy.—It is quite too early to recommend a remedy with confidence. A longer and more accurate acquaintance with the progress and modifications of disease, may be needful. Yet I would with some assurance suggest

1. *An immediate and temporary remedy.*—This would be to permit the earth around the tree to freeze deeply, and then cover it deeply with waste rubbish, so as to retain the tree in a dormant state as long as possible, at least until the circulation may be permitted to advance without fear of a check. I am aware that a large amount of fluid is stored up in the tree in autumn, and that many of the roots penetrate below the ordinary reach of the frosts. Hence it may be impossible perfectly to check the circulation. But I think the mode suggested would in ordinary cases prove sufficient. Potato vines, buckwheat straw, but especially evergreen boughs, would all be found useful. These might be placed near the trees after the ground had begun to freeze, (before that it would invite mice.) The application should be made when the frost and snow have most accumulated. They should be renewed in this climate, (central New-York,) about the first of May. When the summer heat has well set in, and the earth is thoroughly warmed, it might be restored as a means of defence against excestive heat and sudden changes.

2. *The remote remedy.*—This would be to plant only the hardiest stones, such as come from northern fruit. These would make hardier stocks than southern stones. In case of cultivating seedlings, it would be well to plant largely, and then, about the fourth and fifth years, to reject all such as show themselves liable to the curled leaf. Had I proceeded in this manner in the selection of my stocks, I should now be much better able than I now am, to judge of this whole subject.

Results.—With such stocks as I have, the following results have been arrived at:

1. The Teton de Venus, George the Fourth, and Late Yellow Rareripe, (all glanded varieties,) are nearly a failure, usually, and almost entirely, from the winter's cold, and equally from the effects of the curled leaf.

2. The Early Tillotson, True Early York, Red Rareripe, and Morris' Red Rareripe, (all glandless except the last,) are a little better in regard to the winter's cold, and very much better in respect to the curled leaf.

3. My other budded sorts are yet too young to be judged of with certainty. I hope, however, the White Imperial will resist the curled leaf, especially where planted in moist soil, as has been recommended for this sort.

4. I have four seedlings that bid fair perfectly to resist the curled leaf, as well as the winter's cold. Two of them are glanded and very late; the one a fair fruit for the table, the other fit only for cooking. The other two are glandless; the one early and fine, the other very late, fit only for cooking.

With the foregoing precautions, I think the evils of the curled leaf will be remedied in part, and in part avoided; and that by the latter remedy peach trees may be produced whose buds will retain their vitality through the cold of all ordinary winters.

Such trees as set their fruit safely in May, and ripen in good season in the autumn, are almost sure to find summer heat enough to mature rich and luscious fruit. By these means I hope to see fair and tolerably constant crops of good peaches yet produced, in seasons ordinarily favorable, even in Oneida county. C. E. G.

Utica, Dec. 23, 1851.

ON THE THEORY OF PRUNING FRUIT TREES, &c.

BY L. YOUNG, SPRINGDALE, KY.

Trees and plants cultivated for profit, yield their returns for the most part in secretions of the leaf, or wood-bud system, as timbers, sugars, gums, &c., or in products of the flowering system, in the form of blossoms, as hops; seeds, as nuts and cereals; or in coverings of the seed, as fruits, cotton, and the like. Pruning, (except to effect or to promote symmetry of form, which is not here considered,) in the broad acceptation now given to that term, means any lopping off from the roots or branches of trees or plants in cultivation, with design to stimulate either the leaf-bud system, or its contrary, the fruit bearing. To this diversity of motive in the action of the operator, the fact may be added, that the nature of the part amputated, and even the time of amputation, has something to do with the effect of pruning. It need not, therefore, excite surprise when we see it happen, as happen it certainly does, that the most experienced practical cultivators lay down rules for the guidance of others, discordant in themselves. A desire to aid in rescuing these rules from their present apparent confusion, has induced the author of these numbers to submit his views to the consideration of cultivators; and the elementary remarks contained in the preceding numbers, were deemed indispensable to a classification of said rules, upon the plan designed.

In treating of the antagonistic nature of the wood-bud force, and that of the fruit-bud, I have already said, that according to the books, all the means pointed out as efficient preventives or remedies, in cases where trees or plants were disposed to feebleness of wood growth, from over-bearing, or had already become weak, were in the nature of stimulants or high feeding, either tending to increase the supplies of food thrown into the circulation, or to rid the circulation from the effects of some exhausting influences; while all the means recommended for inducing fruitfulness, in trees so vigorous as to produce wood growth alone, to the exclusion of fruit-buds, are in the nature of debilitants. If, then, fruitfulness be considered as a sort of mean proportion, a state of equilibrium between the wood-bud force in preponderance, which is indicated on the part of the tree or plant by a disposition to produce leaf-buds only; and the fruit-bud force in preponderance indicated by that condition in over-bearing trees or plants in which few or no wood branches are produced, then do these propositions become two elementary truths, touchstones as it were, by which to try every rule of practice before its adoption as part and parcel of that

knowledge which constitutes the science of managing and pruning the orchard and fruit garden, in their most essential particulars, the inducement and maintainance of fruitfulness; and it is in accordance with these propositions my classification will be attemped, dividing the several processes of pruning into two classes, according to their repective nature, and adding to each class such other processes as are adopted by cultivators in aid of pruning.

CLASS I.—Stimulants to the wood-bud force—to be applied as preventives to trees and plants in bearing, when disposed to feebleness, or as remedies, where feebleness from over bearing is present:

1. Cutting out or removing at any time, in whole or in part, as the case may require, from a tree or plant, the fruit-bud system.

2. Shortening-in the wood branches at any time after the close of one growing season, and before the commencement of another.

3. Cultivation of the ground.

4. Manuring.

5. Any device for destroying hurtful insects or mosses, and for securing the health of the roots or leaves.

CLASS II.—Debilitants to be applied as preventives against over-luxuriance in bearing trees or plants disposed to excessive wood growth, or as remedies where the trees or plants are unfruitful by reason of the non-development of fruit-buds.

1. Stinting supplies of food—by confining the tree or plant to a pasturage of limited space, through means of root-pruning, or of stocks having a small system of roots.

2. Neglected cultivation.

3. Retarding the circulation, by bending the branches and destroying capillarity.

4. Breaking the circuit of circulation during the growing season, and before the roots have received an equivalent in vigor and enlargement, for the supplies sent upward in the circulation.

It will be seen from the list of stimulants, that I enumerate two distinct processes of shortening-in; one, proper only between the growing seasons; the other at all times stimulating, in consequence, as I have supposed, of the parasitical nature of the parts removed. The bearing apple tree often exhibits striking proof of the parasitical action of the fruit-bearing force upon the vigor of the tree, as also of the efficiency of shortening-in as a counteracting stimulant; for it often happens that during the growth and maturation of an excessive crop, not a particle of wood seems to be formed; indeed even the fruit-buds for the succeeding year, which generally lie at the point of the spur sustaining the fruit which is being matured, are often starved out, or rendered so feeble as to perish in the following winter. Whenever the terminal fruit-bud is destroyed in this way, wood growth, more frequently than otherwise, takes place from the first bud below or within the terminal bud thus destroyed. This is shortening-in, performed by removing a portion of the fruit-bud system, before the commencement of the growing season; one of the most unmistable instances of this process, and of its efficiency as performed by accidental means, occurred under my observation in 1851, with two White Doyenne Pears upon quince stock, subjected on the first of May, when in full leaf and fruit, to a temperature of twenty degrees; every fruit, every leaf, and every bud was killed, and many fruit spurs sloughed off; but now those trees are covered with a vigorous wood growth, many branches exceeding a foot in length, although at the time of the frost, and for some years before, there was present that scantiness of wood growth common to the pear dwarfed on the quince when in bearing.

I have in a former number adverted to the effects of removing portions of this fruit system during the growing season, as witnessed in a course of experiments with the peach; but there is a plant in common cultivation whose history illustrates so forcibly the debilitating tendency of the seed producing system, and the manifest relief to the general vigor of the plant, consequent upon a removal of that system, whether sooner or later, in the stages of its growth, that I am tempted to advert it, although perhaps at the expense of that brevity proper for these numbers. I mean the tobacco plant, which, as every body knows, is cultivated for its leaves; but these leaves are grown large or small, thick or thin, at the will of the cultivator, who uses this same fruit or seed producing force as his chief engine of control. Thus, if a heavy and thick article is desired, the upright leading shoot, is pinched out before the slighest development of the seed system appears; in that case the top leaves, although very small at the time of pinching out, expand, and in well cultivated crops become the largest of the plant, and the whole system of leaves keeps up an active circulation with the roots till the approach of frost, constantly increasing in weight. If, however, in the same field, other plants of equal thrift be allowed to grow until the embryo umbels which would ultimately crown them if permitted to flower, are fairly developed, or in planter's parlance, until the "button" is formed, before the leading shoot is cut off, no after care can make these leaves so large or so heavy as those upon the early topped plant; and what is more, the longer the process of heading down is delayed, the lighter will be the leaves. In the first case we see striking evidence of the continued action and reaction between the roots and leaves of the wood-bud system, during the growing season; in the latter, strong proof that the fruit or seed bearing system never ceases to be a burden to the circulation, until it ceases to act. Cutting out, therefore, in whole or in part, the fruit bearing system, is, whenever performed, a species of exorcism; a freeing of the general circulation, in whole or in part, from the paralizing influences of that magical power, which during the mysterious metamorphosis termed a development of the fruit-bud system, as well as during its existence, seems to weigh like an incubus upon the general vigor of a tree or plant; and if FORSYTH had based his claims to distinction and to national bounty, upon the fact of his having been the first who wrought miracles by the potency of this charm in rejuvenating old trees, by heading them back, and dressing the wounds with his peculiar composition—giving credit where it was due, instead of bepraising a compound of inert ingredients, and thereby perpetrating the egregious error of mistaking a trifling coincident for a most powerful cause, he would today hold rank among practical philosophers, instead of being consigned, as he is, to the companionship of humbugers.

As for the other processes listed in class No. 1, they all rest upon well known maxims, and need not be enlarged upon. Cutting back the wood branches after the close of one growing season, and before another begins, is lessening the number of individuals to be fed, without lessening the years' supply. Cultivation destroys rival feeders, and facilitates the passage of the roots in rambling for food, whilst manuring enables them to glean more food from a given extent of pasturage. All insects, fungi, or mosses, interrupt in some way the circulation, so that their destruction is at all times invigorating.

I regret to see by an editorial remark in the November number of the Horticulturist, that I failed to make myself understood in some comments upon Mr. DOWNING'S method of shortening-in. I have not intended to say that shortening-in, as a means of preventing the tree from enfeebling itself, was either inefficient or improper. So far from it, I consider this process *the means*—nature's own means. The point I thought untenable in his practice, was prescribing this remedy somewhat as a panacea, and not as a specific. Some-

times a peach tree, three years old, and even much older, has only wood-buds, or wood-buds and branches, in very great excess; to shorten-in these in February or March, to prevent their enfeebling themselves, would be defeating ourselves of what we most desired —if, as is the hypothesis, such trees would remain unfruitful until reduced in vigor.

L. YOUNG.

Springdale, Ky., Dec. 1851.

OUR IMPROVING AGRICULTURE.

BY HENRY F. FRENCH, EXETER, N. H.

THE present Governor of Massachusetts, in his proclamation for thanksgiving, suggests as an occasion for public gratitude, "the increased attention given to agriculture;" and perhaps there is no change in public sentiment of recent date, more worthy of notice than the fact to which he refers. That it *is* a fact, will not be doubted by any careful observer. Agriculture in England, and on the continent of Europe, has long been regarded as of the very first importance. It is a leading, if not *the* leading subject of conversation there, among gentlemen in the higher circles of society. And well it may be so, as the wealth of the nobility, the prosperity of the middle classes, and the salvation from starvation of the laborers, are plainly seen to depend upon the crop. In Ireland, if one potato crop fails, thousands of the population, perhaps, die of starvation. In America, if our potatoes fail, we merely change our diet for the time, and live just as well upon corn.

But although the fear of actual starvation does not affect us, the *fact* is, that agriculture, as his Excellency the Governor suggests, is getting to be *quite the fashion* throughout the country. Farmers' clubs are taking the place of *caucuses*, and cattle shows of military musters. Every man who has land, is endeavoring to raise a premium crop, and they who are *landless*, are trying to keep up with the times, and serve their country with *pen and ink*, and such *other* agricultural implements as they may have at hand. Not long ago, I met an itinerant lecturer who was traversing the country, "astonishing the natives" with his learned talk about silex, alumina, and divers other

"Latin names for horns and stoves,"

and discoursing most eruditely before the public on agricultural chemistry. He said he sometimes lectured on animal magnetism—that he was familiar with "all those subjects," but that nothing *paid* quite so well just now as agriculture! He had fortified himself with a full set of Professor MAPES' Working Farmer, and other "good works," and with abundance of assurance instead of "faith," to match, was warmly advocating the expediency of working the land at least *three feet deep*, in a neighborhood where it would be a fair forenoon's work, to get a *churn-drill* to that depth!

However, he judged wisely what topic would most interest the people, and how he could best get their money. And now, while there is an interest so deep and universal on this subject, while not only men of true science are diffusing valuable knowledge through the land, but while quacks and charletans are endangering the safety of the cause by the careless use of *other men's thunder*, it may be interesting to inqure what is reasonably to be expected of science applied to the culture of the earth, of which so much is said and written.

From the remarks of some writers, it might be inferred that agricultural science, and especially agricultural *chemistry*, is to make plain all the hidden things of creation; that by its light we shall discern all the peculiar properties and components of every plant,

from the "hyssop on the wall" to the "Cedar of Lebanon;" that we shall so perfectly comprehend its structure, that we shall, by-and-by, be able to collect the materials and build a *plant*, as we do a plow or cart.

It is true, science may do much for agriculture. She may lead to improvements, as she is constantly doing, unattainable without her aid. She may analyze the *crop* growing upon our field, tell us accurately every element of which the plant, at each stage of progress from blade to flower, from flower to fruit, is constituted. She may analyze the *soil*, and ascertain with precision *its* elements, and so inform us how far it may supply the requisite food for the desired product. She may catch the falling rains and dews of heaven, and in her crucibles, resolving them to their primary principles, make them disclose how far *they* may be expected to contribute to the growth of leaf and stem, and flower and seed. She may even take captive the *winds*, and learning of what their balmy breath is made, estimate with tolerable accuracy their influence upon vegetation. She may make analyses of the various substances used by the farmer as *manures*, and see in which of them may be detected those constituents of vegetable growth which are most abundantly supplied by the earth, the water and the air, and so direct him to the most economical expenditure of his treasures.

Science may explain to us the effects, both chemical and mechanical, of *draining and deep plowing*—how by these operations the elements of fertility are drawn from "the heavens above and the earth beneath"—how the roots of the plant are thus enabled to traverse far and wide, *selecting* such aliments as its peculiar structure may require. She tells us how, by judicious *amendment* of the soil, as by adding sand to clay, we may render it more open to the action of the sun, more permeable by the dews and rains—or how, as by adding clay to sand, it may be made more compact, and more retentive of water and manures.

Science may teach us *the history of domestic animals*, their varieties and qualities. She may give us the results of careful observations for centuries, upon the effects of *crossing* upon the different breeds, and so inform us how far we may reasonably expect the transmission of peculiar traits, moral or physical, from one generation to another. She may teach us the history of *birds*—how industriously they co-operate with the husbandman in the destruction of myriads of insects, which, but for their aid, would over run his fields, and devour his harvests, thus teaching him to regard their song with pleasure, their presence as a blessing, instead of waging against them, as he did in less enlightened days, a cruel war of extermination. She tells us how the wood-pecker, formerly regarded as a deadly enemy of the orchard, guided by an instinct alike unerring and wonderful, strikes her sharp beak through the bark, and drags with her barbed tongue, from his concealment, some worm which is slowly working his destructive way beneath. She tells us how the beautiful *Oriole*, so often regarded and destroyed by the market gardener, as an enemy of his *peas*, is only devouring the larvæ of the pea-bug, which is already full grown in the green pea fit for the table, and would otherwise make part of some favorite customer's dinner, who, as likely as not, might fancy himself to be living on a strictly *vegetable* diet!

Science collects and arranges the *statistics* of agriculture, collects and compares the various results of occasional or systematic experiments, so essential to right conclusions. She warns us how the resources of the earth are exhausted by the constant conveyance of its fruits to great cities, without adequate provision for the return of their fertilizing products to the soil; how, in the language of a reliable writer, "there has been enough of the elements of bread and meet, and wool and cotton, drawn from the surface of the earth, sent to London, and buried in the ground or washed in the Thames, to feed and

clothe the entire population of the world for a century, under a wise system of agriculture and horticulture."

She shows us how the virgin soil of the New World has been already rifled of its treasures; how the American idea of *developing the resources of the country* has led to the construction of railroads and canals, on which, in the form of wheat and corn, the elements of fertility—the very *life blood* of the earth, have been freighted away and sold for money, *and no return has been made to the land*, till the fertile soil of some counties in New-York, which once produced an average crop of thirty bushels of wheat to the acre, now produce but *seven or eight*; how the continued cropping of lands in parts of Virginia and other more southern states, with tobacco, has literally laid the land desolate, and compelled its inhabitants to seek new homes, on a soil fresh from the hands of the Creator.

And so we are made to perceive, that a system leading to results so disastrous, can be but temporary, and false, and ruinous; that in the New World we have heretofore but gathered the almost spontaneous fruits of the soil, and now must gird up our loins for severe and intelligent labor.

In these, and in a thousand other modes, does *science* aid and direct, and warn, and instruct us. In every form, in every department, is she destined, even more and more, to render us assistance. They who sneer at her name as connected with agricultural progress, do but show their own ignorance.

But, while we would gratefully avail ourselves of every branch of science, it is important that we remember that we labor in a boundless field, and that, although we may constantly advance in the study of the operations of nature, we are at all times liable to error, and often groping blindly in the dark, in our endeavors to solve her mysteries.

The agricultural *chemist* is subject to peculiar embarrassments in his investigations. Although the operations of chemical affinity, and the results of chemical combinations, are doubtless governed by laws as uniform as those of gravitation, and the revolutions of the heavenly bodies, so that the chemist in his laboratory, may pursue his experiments with almost the certainty and clearness with which a mathematician pursues his premises to a demonstration; yet it is quite otherwise when he attempts to apply his principles to the growth of plants. In the *one* case, he deals with two or three elements of known and certain qualities; in the *other*, his expected results may be influenced by the unsuspected presence or action of various substances or agencies. The elements, which in his vessels of glass, will combine but in uniform proportions, and form but one single compound, in the *earth* may be affected by other agents, in such a manner as to prevent the combination expected, and produce results entirely different.

And this is by no means all. In every question affecting the growth of plants or animals, we are involved in a mystery far more perplexing than even the abstruse doctrines of chemical science. I refer to THE LIFE PRINCIPLE.

We know that the seed has power, under certain circumstances, to germinate, to strive upwards for light, to put forth leaves, and flowers, and fruits, and that it finally *dies*. We know, that on the same soil, watered by the same rain and dew, breathed upon by the same air, gladdened by the same sunshine, spring up the rose and the lily, the crocus and the violet, plants of various leaf, and flower, and seed—spring up and flourish side by side together, each retaining its peculiar nature, each *selecting* from the air, the earth, the water, its appropriate nourishment. We know that plants seem endowed with certain *instincts*; that flowers turn towards the light; that certain of our trailing vines will turn from their direct course in a single night, to seek a vessel of water placed near them, and be found next morning with a leaf floating on its surface.

We learn that climbers will seek a prop or pole placed near them in any direction, and that having reached it, some of them, as the *hop*, will invariably twine about it, only in one direction—from east to west, *with the sun*, and as if to confound all human reasoning, and silence inquiry even as to the cause; other species, as the *bean*, twine around the support in the *contrary* direction, and this with such uniformity, that among a million of such plants, no single exception can be found!

The mysteries attendant on *animal life*, are still more startling and complex than those connected with vegetable growth. The influence of the mental and physical qualities of the parent upon the offspring, the circulation of the blood, assimilation of the food for the formation of the various bodily organs, are all mysteries passing our present knowledge.

Bodies, under the incomprehensible laws of this life principle, seem released from chemical rules, and are converted into other bodies, having properties, apparently, entirely distinct and new. The egg, by the application of *heat* merely, is converted into the flesh, and blood, and bones, and feathers of a young bird, and milk, the sole food of many young animals, is changed into the diverse constituents of their breathing bodies.

The chemist and philosopher can offer no explanation of these and a thousand other familiar facts, and this consideration should teach us, while we ardently pursue to their utmost limits, the investigations of true science, not to expect from her aid a sudden and transforming change in our whole system of agriculture, and not to give heed to the crude speculations of every plausible theorizer. Science may do *much*, but she cannot do *everything*, and some men are disposed to refuse her aid altogether, because she will not pretend to solve all mysteries.

The story of the good woman who went to a place where she had heard chickens were hatched by steam, illustrates the temper of such persons. She was shown the eggs deposited upon cotton in drawers, subjected to the proper degree of heat. "What," she exclaimed indignantly, "hatch chickens out of *eggs*, and that's all—who *couldn't* hatch chickens out of *eggs*?"

Our farmers must bear in mind, that the progress of scientific investigations must be slow and cautious. They must not expect, though theorists suggest it, to manure their fields by *electricity* alone, or to raise fine crops upon flowing sands, by merely *steeping their seed* in some fertilizing compound. The old clergyman's answer to his servant, who asked him to pray for a good crop on a very barren field, was judicious—"No, Sam, I think praying alone will hardly do for *that* piece; we had better give it a little more manure first."

Theorizing and talking about science, are not farming, nor, on the other hand, are a dogged perseverance in old modes of husbandry, and contempt for the aid of the *thinking* men of our day, very sure indications of wisdom. HENRY F. FRENCH.

Exeter, N. H., Jan. 5, 1852.

SHOULD A REPUBLIC ENCOURAGE THE ARTS?

BY CALVERT VAUX, NEWBURGH, N. Y.

[IT has been honestly urged by some of our severest democratic presses, that a government like ours should necessarily confine its duties to making and executing the laws, and that no powers being delegated to it for any other purposes, it has no right to assume them, even for public education by common schools, &c., much less for that species of

higher education which grows out of a direct encouragement of the arts, as having a special influence in enlightening and refining the people at large, by the erection of fine building, galleries of pictures, statuary, &c. The following remarks, from one of our correspondents, have been written in answer to this doctrine, and are worthy of attention. Ed.]

It is argued that the members of a republican government, like that of the United States, being appointed solely for the purpose of carrying out in practice the political will of the people, are not justified, in their official capacity, in devoting either their own time or attention, or the funds of the nation, to any other purpose whatever, and consequently, that the fostering or advancement of the national taste, in matters of art, having nothing to do with politics, is a subject over which the members of the government have no control, and one with which they have no manner of business. This position, according to the strict limitation of the official powers, members are at present delegated to exercise, appears incontestible, and it seems evident that without being anew specially authorized by the people, the government has no right to sanction the expenditure of public time or public money, for any such purpose. It is, however, not uncommon to hear it asserted on this ground, that no outlay of thought or money on national public buildings, is justifiable, beyond what is necessary to procure, in the most commodious, substantial, and economical manner, the accommodation required. Moreover, that architecture demands something beyond skillful planning, sound materials, and good workmanship, and that this "something beyond," not being absolutely requisite for the convenience or stability of the structure proposed to be erected, and having nothing to do with politics, is beyond the province of the government. As this deduction, though plausible, does not seem incontestible, it may be worth while to investigate its merits.

In the first place, then, it seems clear that the providing suitable national buildings, as public exigence requires, is a necessary part of the business of government—there is no other authority by which such works can consistently be set on foot; and it will hardly be denied by any one, that it is a duty of every government to take care that the public is not injured for want of proper attention being bestowed on such matters. Now, the art of building is every way in itself, as far removed from politics as the art of architecture; yet it appears that it may, (or rather must,) become the true policy of every government to have something to do with the art of building—consequently, it is evident that the simple non-connection of any subject with political questions or politics, according to the popular definition of the word, is not of itself, a sufficient reason for its being considered beyond the scope of the government, for the rule that fails in the one case, can scarcely be held binding in the other. Before the consideration of any subject can be rightly ignored on this ground, it must be fairly proved to have no legitimate bearing on any act that the government, in its truly political character, is bound to perform. The representatives of the nation, therefore, being forced, from the nature of the case, to undertake the responsibility of erecting suitable buildings for all the national exigencies of public business—are apparently bound to decide on the claim of architecture to a place in their calculations—not on the ground of its connection or disconnection with political questions, not in any way with reference to the encouragement its admission to consideration may give to art, nor to the effect it may have on the tastes of the people—but simply on the ground of its suitability or unsuitability *per se*, to the particular national buildings they are called on to construct. This view of the matter, if correct, will at once materially narrow the question at issue, if we allow the word suitable to be only properly applied, when used to embody the idea of that perfect special fitness which it is the duty, as well of individuals as of pub-

lic bodies, to aim at expressing in every act, great or small, public or private, which they may essay to perform.

Is architecture then suitable to public buildings? Is it necessary for the purpose of making them "perfect" and "specially fit?"—that is the question, and the only question that properly belongs to the case under consideration. To arrive at any right conclusion on this point, it is clear that the meaning of the word architecture must be fairly understood and allowed beforehand. The most simple and true definition of it, that seems to be attainable, is that it is "the art of the beautiful in building." There seems no ground on which an argument could rest, capable of proving this to be a false definition, and as it is sufficiently intelligible, it seems needless to seek for any other. Taking then this definition as granted to be correct, architecture is the whole art of giving to a building all the beauties or perfections of which it is capable; perfection of plan and perfection of execution (of which buildings are undoubtedly capable) being of course parts of this whole, the remainder, whatever it is, being something beyond these. The first deduction that necessarily follows, is that there is no such thing in existence, or capable of existing, as good building exclusive of architecture; for every quality in a professedly unarchitectural building, that gives it a title to the name of good, is necessarily a perfection or beauty either of convenience or construction; and "all" perfections and beauties in building, being claimed to be the peculiar province of architecture; such a building would not be unarchitectural, but partially architectural, and only good to the extent that it was architectural; this seems to be the true state of the case, and therefore the line drawn just now, for the convenience of argument, between the art of building and the art of architecture, appears to have no real existence, and consequently government, in erecting commodious public buildings, cannot ignore architecture entirely, and its claim to consideration becomes solely a question of degree—a question of how many or how few architectural beauties or perfections are suitable to the building under its control.

The thing then to determine, is, supposing perfection of plan and execution to be provided for in any public building, what is the next perfection of which it is capable? To decide this intelligibly, it may be useful to prove the analogy, if there is any analogy, between the art of the beautiful in building, and another art which may be more easily agreed on, viz: the art of the beautiful in speaking, if there is in fact any practical analogy between architecture and eloquence. In the first place then, they have each one quality in common, that of being effete without being called into existence for a purpose; a building without an object, or a speech without a motive, is simply impertinent. The one, to be sure, has all the primitive quarries, mines, and forests of nature, for its material; the other has but one alphabet of a few letters, for its primary resource.

The next process in the one, is to convert its material into shapes, proved by experience to have single positive qualities suited for single specific purposes, and stones, nails, and timbers are the result; a similar process takes place in the other, and we have words. Combination then takes place in each, for the embodiment of more knowledge. Walls, floors and roofs on the one hand; sentences, clauses, sections, on the other; the result in one is a building, in the other a speech. The analogy seems perfect up to this point, and only fails when attempted to be instituted between the object of the one and the motive of the other. These are different; the object of a building is to embody working facts deduced from principles; the object of a speech, is from working facts already in existence, to hew out principles that shall result in future action. It is in its essence progressive: it acts as the engineer who takes the level, and the pioneer who removes the obstacles in the way of improvement, while it is the mission of architecture to supply the paving stones

that make that way a road fit for convenient use; and in its most extended sense it is the privilege of architecture to embody what is doing, and that only.

A man may surely be justified in saying of a people—give me a list of their buildings, and I will give you a list of their occupations, and the principles that are at work there; but such a list would never show what such a people would do, or what its principles would be at a future time. To form a private opinion on that point, it would be necessary for a man to take up the thread of the argument, where the facts showed that the art of eloquence had left it, and argue the matter out, silently or otherwise, according to the requirements of the latter art. This difference in the analogy which clearly exists, has, however, nothing to do with the machinery or working of either art, and for the purposes of the present case the analogy seems perfect. To place then a public speech on the same artistic footing on which our public building was left previous to this digression, it must first be calculated to achieve its end thoroughly, and be clearly enunciated. Now is there any other perfection that ought, beyond cavil, to find its expression in a public speech? Certainly there is atleast one, and that one is courtesy. A senator, who should defend a rude speech, however forcible, on the ground that he did not consider that the public paid him for occupying his time on such a subject, would be considered foolishly ignorant. A speech, to be good, according to universal acknowledgment, must be, at any rate, both forcible and elegant or courteous. The presence of one quality will not compensate for the absence of the other, and this elegance must not be protruded; it must be inherent, it must be thought of beforehand in every word, clause and sentence, to give satisfaction. No generally offensive speech, will be mended by tacking stereotyped compliments on to it, which would only make it the more insulting; it must achieve its end, and in the process of achieving it, whatever other perfection it may realize, it must at least offend as little as possible; otherwise it is felt to be tyrannical and insupportably selfish, and is justly disliked by all who hear it spoken. Now this deduction may, without the slightest alteration, be applied to every public building; what other perfection it may, beyond convenience and stability, be capable of, it must at least offend as little as possible; otherwise it is felt to be tyrannical and insupportably selfish, and is justly disliked by all who see it built. If the truth of this deduction is granted, the argument may readily be carried forward through all its various stages to this point, that a great public speech on a great public question, affords one of the limited natural opportunities for the highest efforts of the art of eloquence; and if it is right for government to insist on such opportunities being neglected, it is equivalent to affirming that man has been gifted by his Creator with capacity for realising a certain perfection, but that they feel bound in this political position to say they are instructed by the people to consider this an unnecessary gift, and have accordingly made up their minds to strangle every palpable opportunity that occurs for its exercise; and the argument thus carried forward, applies as accurately to architecture as to eloquence, for that the Creator created man with a capacity to develope beauty in buildings, no one will deny; or, according to all rules of consistency, that the buildings for the most valuable and important purposes, are the only proper field for the highest possible developments of that capacity, and therefore the simple case is that the government is placed in the position of asserting that they are instructed by the people to ignore the existence and deny the opportunity for the use of the noblest gifts of the Creator.

One other objection has been raised, and that is, that the admission of the right of government to include, in any way, such subjects as architecture, in its idea of public wants, and to spend public money thereon, has an unavoidable tendency towards *corruption* in

the state; that it is much better that such matters should be left for free development by the people at large; and that the government should not mix up any irrelevant matters with its own special department.

To take the last expression of pseudo-policy first, it is surely clear, that however it may apply to art or architecture, or *anything* in general, it is manifestly impertinent to the particular case under consideration—the case of a public building—because the people at large, whatever their wish, have no *opportunity* to develope, except through their government, anything in a matter that is unavoidably under the sole control of that government. Therefore, this pseudo-policy points simply to utter non-development in national instances, which alone are being discussed. Next, of the unavoidable tendency to corruption; that is the positive basis of the objection. It is at once confessed that it is not without the bounds of possibility that this objection may be a true one; but if true, let us see what is the position it involves. In the first place, it palpably admits that all the laws are insufficient, either to prevent, detect, or punish dishonesty. If not, why can it not be prevented, or detected and punished, in such a flagrant case as the one under discussion,—one that must of necessity occur under the immediate eye of the very makers and guardians of those laws. In the second place, it asserts that all the professional and business men in the country, whose abilities or interests are connected with the erection of buildings, are *rogues*, for if there is one honest man among them, it is the natural course for faithful agents to see that *he*, at least, is fully employed. In the third place, it asserts that all the members of the government are *rogues*, (corruption pre-supposing collusion.) For if there is one honest man among them, it is the clear policy, even of the dishonest who constitue the remainder, to appoint that one to see that, (in a matter in which they are not individually, as dishonest persons, interested,) they are not injured by the mis-appropriation of funds, that each, in his capacity of a member of the community, is taxed to realize. In the fourth place, it asserts that all the political majorities of the constituencies are *rogues*, for if there is one honest man in any of them, aye, or out of any of them, even in the minorities, why is he not elected to the government office, when it must be clear to all the remainder, (rogues though they be,) that he alone has the capacity for acting in a manner disconnected with unprincipled private interest,—the only man, in fact, whom any one of them would feel safe to be any gainer by appointing. The objection then, reduced to its elements, is practically a four-fold accusation against the character of the laws, the professional men, the government, and the people of the United States. This insulting accusation will hardly be allowed, and yet it may be said, "the thing don't work, it won't work, it has been proved not to work, and therefore, in spite of all far-fetched conclusions, it is better to get rid of it altogether." All that can be said to this is, that if it does not work; it is without a particle of doubt because some of those conclusions or accusations, are actual in some point—and whatever that point may be, it is respectfully recommended that it forthwith be discovered, and exhibited to the government as a discredit to the nation, and as an appropriate opportunity for employing any "getting rid" force that may be at hand; and if this course is asserted by objectors to be impossible, it only remains, in the beautiful language of the *immortal bard*, to "pity their ignorance, and despise 'em for it."

C. V.

Newburgh, Jan., 1852.

THE PEACH IN THE NORTH—HOW TO TRAIN IT.

BY JOHN SAUL, WASHINGTON, D. C.

It may appear out of place in me to submit any remarks on the peach, to cultivators in this country, where this fruit is cultivated to such an unlimited extent. The best manner of training this tree, is what I particularly wish to notice, conceiving it may be useful in several of the northern states; though not required in the middle or southern states, from the great ease and little care with which this delicious fruit can be grown in its bounteous soil and fine climate. So freely does it grow, that it can be scarcely called cultivated. I have been particularly struck with, 1st. The great extent to which they are cultivated. 2d. The little or no attention given in their cultivation. 3d. The immense mass of rubbish called peaches, which are poured into the markets. True, I have seen good fruit, but good was the exception, and by no means the rule; the overwhelming majority, to say the least, were very poor; and this in a soil and climate capable of producing as fine peaches as any region on our globe. If we inquire more minutely into their culture, we shall probably find that the whole routine of culture, from the procuring of the stone to the gathering of the fruit, have been equally bad. The stones probably are procured from any quarter, never caring whether the "Yellows" are prevalent there or not; spring arrives and instead of being planted out at proper distances, they are sown by handfuls in drills, when they are drawn up thick and crowded, the plants choking each other for want of air, and without the proper amount of nourishment for their roots. How can they gain strength or mature their wood under such treatment? The thing is impossible, and now in the first start, in the very infancy of the tree, its constitution is tainted and broken. In those drills they are sometimes budded—without being at any time transplanted, until they are offered to the public, cheap, by the hundred or thousand, and how many persons are there that will buy this cheap stuff rather than give a fair price for well cultivated trees. When they have got them, do all prepare their ground and plant them properly? Alas! I fear the contrary is more generally the case, as is too well known! Planted and growing, are they regularly pruned, the fruit thinned, and every other attention given which the fruit requires? If not, how can we expect the trees will go on, year after year, bearing abundant crops; must we not rather expect that the trees will soon sink into feebleness, sickness and premature decay. I have said the constitution is impaired, or destroyed, in its infancy, and if so, can it ever regain it? Will the child that has been broken down in infancy for want of food and air, form the strongest and most athletic man? I think most persons will answer in the negative. Precisely is it the same with the tree. The Larch is planted as a timber tree to the amount of many millions annually in the mountains of England, Wales, and Scotland. Let us see how these plants are raised. One plan is, sow the seed in beds where it is allowed to remain two years, when they are lifted and planted out; this is a cheap method, but a very bad one, as when the plants have stood two years they become thin and drawn; it has few fibres, but on the contrary a few long tapering roots, which are generally injured when lifted, and when planted take a long time to recover themselves; indeed many die from the check which they receive, so for one or two consecutive seasons, they require the vacancies to be filled up.

Another method is, after the plants have stood one or two years in the seed bed, to plant them out in lines in the nursery, for a year or two, after which they are finally planted out where they are to remain; this is a better system than the first, though not equal to the manner I shall now describe. Sow the seed thinly, in light, well prepared

ground; if they grow well, they should be, by the end of the first year, three or four inches in height· as they are now but one year old, there will be no difficulty in moving them with all the fibres they possess, and setting them out thinly in a well prepared piece of ground hence, by the end of the second year, they average from twevle to fifteen inches in height. They are now lifted and planted out where they are to remain, and from the transplanting of the first year, they now move with a mass of fibres which strike immediately into the ground, the plants themselves forming shoots the first summer from nine to twelve inches long, and go on after as rapidly as if they had never been moved; when compared to the other two systems, we find they remain stationary, or make very little progress for the first year or two, and never grow so rapidly or fine. I bring the case of the Larch forward, to illustrate my idea of the necessity of growing this, or indeed any other tree, from its infancy, freely and thriftily, without impairing its constitution, from want of food, light, air, or improper checks of any description whatever; once its constitutional strength lost, it can never regain it. Do the breeders of fine animals neglect them while young, and only tend them with care when they arrive at a given age; nothing of the sort—they know full well to their cost, if they are not careful and kind while the animal is young and growing, they never will have anything worth figuring at any of our state fairs.

We will now pass by the youthful days of our trees; but before doing so, I shall make one more remark, bearing upon this point. The growers of plants for the great London exhibitions, in what way do they produce those matchless specimens of cultural skill which surprise every one who sees them? They commence with young, healthy, thrifty plants—any plant that does not possess health and vigor, they would not waste time and attention upon, as it would be *wasted, nothing more*—these are potted liberally, grown in warm, well constructed houses, fumigated, syringed, &c., with every possible attention given to induce a healthy growth for two or three years, during which time they are not allowed to produce a single bloom—there is no check in any shape given. When the plants are of good size and shape, and have concentrated within them, health, strength, and vigor, and are capable of doing what is technically *called work*, they are then, and not till then, allowed to bloom. Should any of the plants look in the least delicate, while passing through this training period, they are immediately destroyed, as it would be considered a waste of time to keep them longer. Hence the great necessity of growing all plants and trees from the first stage of growth, well, full of health and thriftiness, &c. We shall suppose they have been well grown in their early stages, and that the trees are properly and permanently planted out as standards; they should now be regularly pruned, the fruit thinned, &c. How this should be performed, has been so well and so frequently described by Mr. Downing, that I shall pass it by. If pruning, thinning, and the other necessaries which the trees require, are neglected, they must of necessity soon perish; if people were but to consider the immense draft a heavy crop of peaches must make upon a tree, they would wonder how it was the tree does not die from sheer exhaustion; and if the tree does not perish, it must of necessity become feeble and sickly. I have seen splendid specimens of plants perish after a free bloom, and so well is this known to the exhibitors in England, that many of those magnificent specimens which are shown at Chiswick and Regent's Park, are the day after the show denuded of every bloom. Now, had all this bloom been allowed to remain and die off naturally, the plants would be so enfeebled, that if they had survived at all, they would require a years' repose before they could be brought out in the same trim, or bloom poorly the following season. It is well known the most delicious fruits are the most delicate, and require the greatest amount of care. The highest bred

animals require more care and attention than those of their race of inferior qualities. In flowers we find it the same. The common Pansy will survive a winter in the northern states, while their cousins, which have been so much improved in size, shape, substance, and color, require the highest state of pot culture in cool pits, in England. Geraniums, as they have been improved by Mr. Beck and others, must have more care than the common old varieties, and those lovely fancy varieties which have come much into culture of late, require still more care, as well as cultural skill, to grow them in anything like perfection. The common clove pink will grow freely in the borders of our flower gardens, but the delicate flaked carnation, and the beautiful yellow picotee, if to be grown well, or at all, must be managed very differently. And so must our delicious peaches, if we wish the fruit fine, want to have the trees in health and vigor, and prolong their lives, a good routine of culture must be pursued, or disease will soon manifest itself. It has frequently been urged by excellent writers, to procure the stones from which stocks are raised, from healthy districts, and this cannot be too often recommended, as the good or bad qualities of the parent will be inherited by the offspring. The growers of oak in England, invariably procure their acorns from the finest trees, and will not use those from small stinted scrubs, and at the present day, many growers procure their Larch seed from Tyrol—the native home of the Larch—in preference to seed raised in Britain. I could run through many other instances of the kind, showing the great necessity of having seed from the healthiest districts. Florists that excel in raising seedling geraniums, pansies, &c., not only save their seed from varieties of first rate qualities, but the individual blooms from which the seed is saved must be as near perfection as possible, and whilst in flower no other bloom of inferior qualities, of that or any other varieties, is allowed to exist, lest the bees may frustrate the object in view, by taking the pollen into the flower which is intended for seeding. Of no less importance is it, that buds should be taken from a healthy source, as they will assuredly perpetuate and transmit the strength and vigor, or disease of the parent. This holds good through the whole range of the animal and vegetable kingdoms, and is particularly conspicuous in fruit trees, ornamental trees, flowering plants, &c. Hunt's large Tawny Nectarine was raised from thrifty, free growing young plants of the "old Tawny." Most variegated trees, with many of the pendulous, have been produced by accidental branches on trees of their species, produced by sickness, insects, and other causes; yet all these, with the greatest certainty, are perpetuated by budding and grafting. The Mogador (D. P.) Rose is said to be a sport from the Crimson Perpetual, or Du Roi, yet it re-produces itself with certainty by budding, and is more vigorous in growth than the parent. The Clifton White Moss Rose was produced by a sucker from the old Pink Moss; it is the best white moss, but extremely delicate in its habit, and difficult to grow well. When it does grow well, it is predisposed to sport again, into what is called the Blush Moss. We have another sport in the same line, Unique White Moss, which has been produced by the old Unique Rose—parent and offspring being of the same color, the growth is much about the same, whilst the mossy character of the latter remains constant. In budding or grafting, we perpetuate all the good or bad qualities of the parents, as much, if not more than by seed raised from the latter; all highly cultivated fruits will vary to a considerable extent, whereas, by budding or grafting, we perpetuate them with the greatest accuracy.

It is well known that in England all peaches and nectarines are worked upon plum stocks; the climate being excessively moist, with cool summers, when upon its own stock the tree grows very thriftily; the wood is never matured properly; the autumn finds them full of crude sap, branches, stem and roots, and the following spring the tree will be found

in a lamentable state of disease, being one mass of canker, gum and rottenness. To avoid this, recourse is had to the plum stock. And here much judgment and experience is necessary, as varieties of peaches demand peculiar stocks; what are termed French peaches, are generally worked on what is called the pear plum stock, a variety of slow growth, but one upon which these peaches appear to succeed well; the Muscle plum stock is a variety of much stronger growth, and on it are worked all the other sorts of peaches, with most nectarines; upon it they grow admirably, though the constitution of the French Peach is such that they will not take upon this stock. Mr. RIVERS uses a stock upon which all peaches grow finely. Formerly a stock was in cultivation called the Brompton Plum, a variety of very thrifty growth, but on which the peach was pre-disposed to disease, and on which it did not live long; this variety is now little used, and no English gardener that knows anything about peaches, would think of planting a tree if it were on this stock.

Let us now see in what way they are prepared for working. Small stocks are bedded out in good ground; here they stand two years; at the expiration of the second year, they are cut down to the ground level; the following season they throw up fine clean shoots, three to four feet in hight, and by the end of this year, they are taken up and planted out in the nursery lines for budding; every workman can perceive how much easier and better such young stuff can be budded, than stocks that may have taken the same, or even a less amount of time, to grow, but had not been headed down. Standard peaches and nectarines are generally budded at a height of from five to six feet, on the stock. The latter is grown for the purpose in this way: strong stocks are lined out in the nursery, in the same way as when they are intended for working dwarfs upon; here they are allowed to stand and grow two years; when they are cut even with the surface of the ground, they will throw up shoots from five to seven feet that summer; many will be fit to bud the same season, at a height of five or six feet, and the remainder the following summer. I have been thus particular in describing how this tree is raised in England, contrasted with the ease with which it may be cultivated here. I say ease, for the best culture which we can give it here, will be easy in comparison with its cultivation there. See what care is there required in selecting stocks suited to the varieties; next, the preparation which these stocks undergo to have them healthy and thrifty to receive the buds; and as we proceed we shall find the after treatment is equally assiduous; care, attention, and labor being as little spared. Here is the proper place to notice stocks, for this climate, and where this tree succeeds on its own roots there unquestionably is nothing better, if there is any thing as good; but in some of the northern states the plum stock may be useful; here, however, the stock must be of such a nature, that the peach will take and grow freely upon, and be likely to last; for the more delicate varieties of peaches, a stock of moderate growth should be used; time and experience alone can however determine which varieties will answer this purpose best, and which the varieties of peaches will grow upon.

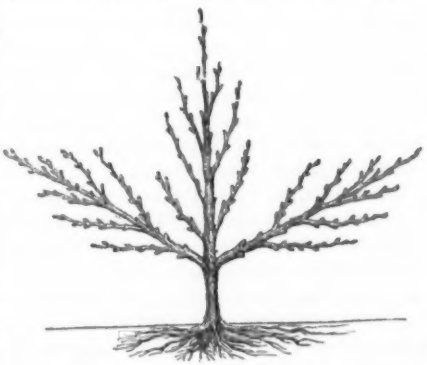
I have extended these introductory remarks longer than I intended when I commenced, but I hope if I have made a digression it may be useful in its way. We shall now turn to the other part, and that which more immediately concerns us at present—the proper training of the tree. When the latter are purchased in the nursery, they should be young, clean and thrifty; one year old from the bud is best; if older, when headed back they do not break free; they will have the appearance of No. 1. In the present day I should hope no person would think of planting these or any other valuable trees with

No. 1—the tree as received from the nursery.

out trenching, draining, and otherwise preparing the ground for their reception. Were I to enter into a description of the manner in which ground is made and prepared for the reception of these trees in England, it would surprise many. However, I take for granted our ground is properly prepared, and our trees planted; the latter operation I think is best performed in autumn; except for a very cold northern latitude, when perhaps early in spring is preferable; after planting, the heads may be lightened, but not cut fully back until spring; early in the latter season, say when the sap is about to move, let the plants be headed back to within three eyes of the place where it had been budded as shown in No. 2. As soon as these three eyes break, and the shoots are of sufficient length, they must be secured carefully to the trellis to which they are to be trained; they should be constanly watched when growing, that the shoots may not be injured by insects or other causes, as the loss of a branch would now be of vital importance to the future symmetry of the tree; all the lateral or summer shoots which these produce should be allowed to grow, and secured in the same way as the principal branches.

No. 2—headed down the first spring after planting.

As during the season of growth there is a reciprocal action carried on between the roots and branches, the numbers of the former will be regulated by the proportions of the latter. The amount of healthy foliage which a tree possesses, is also of paramount importance, leaves being the functions of respiration and digestion; the numerous fibres of a free growing peach tree collect an immense quantity of crude matter, which is propelled into the leaves; here it is digested and assimilated, and is prepared to become the wood of the tree. Now, if we had not an amount of foliage equivalent to the amount of roots, how would matters stand? Something in this way; the roots, as in the other case, would collect food, force it into the stem and branches, but not having a sufficiency of leaves to elaborate the sap, it remains in the pores of the tree, in a crude, indigested state; the following autumn arrives, and what shall we find? A tree with, it may be, strong wood, but that so sappy and unripened, that ere spring arrives it will be a mass of gum and canker. Let us now see what appearance our trees will present that had an abundance of healthy foliage, and which well performed their allotted offices under the bright light and intense heat of our fine summers. In the autumn we find the branches well ripened, ruddy in color, and as firm as a piece of oak; our young trees will now have concentrated within them, health and strength, and will have the appearance of No. 3. Perhaps I should have remarked when the trees had been planted, they should be well mulched with long stable litter, which should be left on through the summer, as it is of great benefit in keeping the roots moist; should the weather prove dry in early spring, a few good soakings of liquid manure will benefit them. Early in the spring of the second year, our trees must again be headed down, as shown in No 4, to two eyes, and as our tree is by this time pretty well established, it will break with considerable vigor.

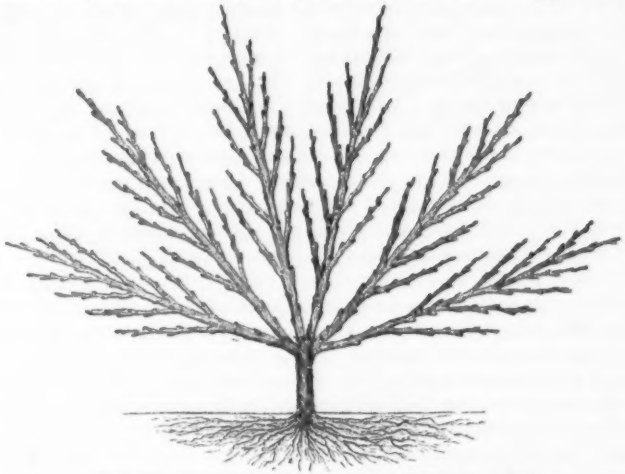


No. 3—As it appears after its first year's growth.

The previous year I called attention to the great necessity of vigilance and care being given

to the tree at the time of the shoots breaking, and if anything, it will require more vigilance now; allow these soft young shoots to be now injured, and the symmetry of the tree is irretrievably lost; on the other hand, lay in and tie these shoots with care and in good time, and we shall accomplish much towards the perfect shape of our future tree. It will be observed in the past year we had but three branches, which had been headed down in spring to two eyes each; we have, therefore, now six branches, which must be trained at full length with all the laterals, (or summer shoots;) for the reasons assigned last year, insects must be guarded against, as well as anything that would injure the tree or its foliage; mulching the roots, with occasionally a good watering of liquid manure, will very much assist it; by the end of this (second) summer it will have the appearance of No.

No. 4—Headed down in spring of second year.



No. 5—The appearance of the tree at the expiration of the second year.

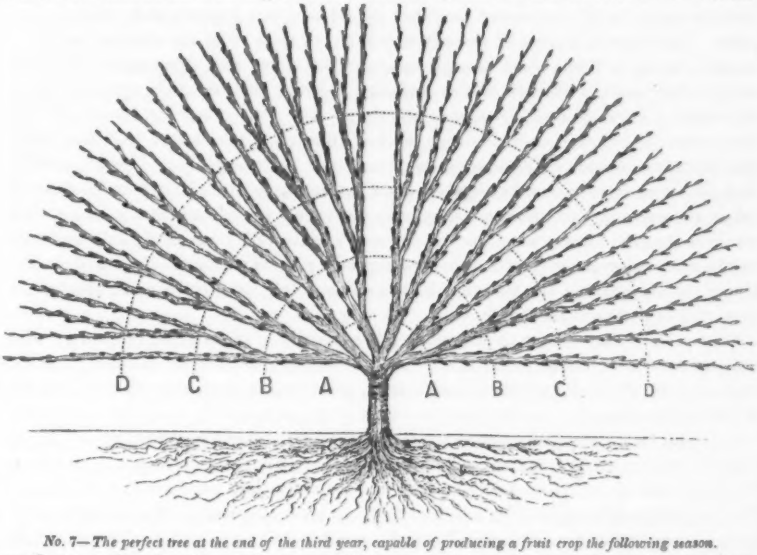
5. Here now we have a tree, healthy, strong, and thrifty, with abundance of roots, a clean stem, well formed, well ripened branches, and capable of being moulded into a beautiful tree in the coming year. Some will perhaps say, our tree is now too thrifty. But this phrase "too thrifty," I do not well comprehend; if by this they mean long, thick, gory, unripened shoots, they may call it "*too thrifty*" if they please, and they may consider such wood on their trees anything but desirable, but if the system I am describing is properly carried out, the wood will be of a very different character.

In place of spongy, soft unripened shoots, their tissues will be firm, well matured, and as ripe as sun and heat can make them, and under conditions such as these, I say there can be no such thing as "too thrifty." I can well understand in a climate such as England, where the digestive and respiratory organs of plants perform their offices slowly, and but too frequently imperfectly, over luxuriant growth is to be guarded against, and wood more moderate in size is desirable, in order to meet the quantity of pure air and elaborated sap. But in the original eastern home of the peach, this will not hold good, nor will it in our own warm sunny climate, which so closely resembles the seasons of its native land. Here revelling in the heat and bright sunshine, the foliage will digest and as-

similate almost any quantity of sap which is propelled into them, there being nothing to impede their healthy action. I think this may be illustrated in another way; in cold northern climates, the Laplanders will eat whale blubber, and drink train oil, which to our taste is not very palatable; yet we live upon strong and nutritious food, when compared to the effeminate Hindoo, who in the warm atmosphere of India, feeds almost exclusively on rice. This shows that man requires to be fed in accordance with the climate in which he lives, but this is generally acknowledged as regards man and animals, and a little reflection will show it is as strictly true of the vegetable kingdom. I said a tree cannot be "too thrifty" if the wood is properly matured, the tree clean and full of health, with abundance of roots in well prepared ground, near the surface. Do persons object to fruit being over large, if the flavor is of as good quality as those of smaller size? I think not. Again florists have rules by which they judge what are termed "florist flowers;" after all the various points are stated, the last comes is size, which is generally worded something in this way, "the larger a flower is, provided it possesses all the other good qualities, the better." Now in what way is this large fruit grown? Has Mr. Mills produced his monstrous pine from little plants? The contrary: his plants were large, and would indeed be called thrifty. Are the finest grapes grown produced by weak canes? I think not. Those who have read Mr. CUTHILL'S articles on market gardening round London, will judge if the growers of monstrous strawberries, know what it is to have their plants too thrifty. I might now pass through florist flowers, and show how strength is concentrated in the plants which produce such perfect blooms. But let us glance a little at the animal kingdom. I have yet to learn if the raisers of that beautiful animal, the horse, object to size, if the animal possesses every other good point. Will the breeders of Short-horned and Hereford cattle object to size, combining with it every other good point? Those who raise the fine Leicester sheep, will, I am sure, be pleased with size, combining with it the other qualities. In the same way I may pass through many more, but the above will illustrate my meaning. When, therefore, I hear of "too thrifty," I understand something like the following: *A rank luxuriant tree, full of sappy plethoric shoots, unripened and incapable of being matured, with the roots in an undrained, cold or wet soil.* But planted in a proper soil, with good after cultivation, so as to have our wood, as it should be, properly matured, we shall know nothing of "too thrifty." At the close of the second autumn, the trees we said would have the appearance of No. 5, and by this time it is evident we have an amount of strength concentrated in the tree and its roots; the latter will be most numerous, strong, healthy, and active. The following spring our tree will once more be headed down to two eyes, to a shoot, as shown in No. 6. As we had last year six shoots we shall now have twelve; as soon as these advance in growth, sufficient to receive a tie, they should be secured to the trellis or whatever it is intended they should be trained to; on starting in the past year, I noticed the great amount of care necessary for the preservation of the shoots, lest the symmetry may be destroyed, and more imperatively necessary is care and vigilance now; the loss of a shoot is now irreparable, and no after skill or judgment can properly supply its place. When the shoots have attained from 15 to 18 inches in length, let the extreme points of all be stopped as shown in No. 7, B. B. This and all subsequent stoppings must be performed on the soft watery points of the shoots; they will then break as freely as though they had not been stopped at all, whereas if the shoots

No. 6—Headed down in spring of third year.

once become firm, they break with more difficulty, and take a longer time. From the points B.B. where the shoots had been stopped, several branches will break, but not more than two should be suffered to grow from each shoot; that number will be sufficient to fill



No. 7—The perfect tree at the end of the third year, capable of producing a fruit crop the following season.

up the tree, allowing the wood a proper distance; and in some cases where the wood appears to be getting too thick or crowded, only one shoot should be allowed to grow; when these have again reached the length of 15 or 18 inches, another stopping takes place at C.C., in precisely the same way as the former (at B.B.,) allowing about the same number of shoots to grow; on these becoming once more 15 to 18 inches in length, a stopping for the third time will be required at D.D., and the shoots laid in as in the former stoppings. These stoppings will in general be sufficient for ordinary trees, but in the case of very strong trees they will require four, and ripen the whole of the wood well. I have said from 15 to 18 inches between each stopping, but it may in particular cases require a little more or less in order to properly regulate the wood over the trellis as well as to preserve the symmetry of the tree. I take for granted whilst this stopping has been going on, no care was wanting to preserve the shoots and leaves, clean, healthy, and free from insects. At the expiration of our third year the tree has the appearance of No. 7, and will have covered a great many square feet of trellis; it is now full of bearing wood from the stem of the tree to the extremities of the branches, all of which will be properly ripened and matured; the latter is accomplished in England on walls, and there will not be the least difficulty in the splendid climate we here possess. In the spring of the fourth year, the tree demands but little pruning, merely shortening the extremities of the shoots from six to nine or twelve inches, as may be found necessary; our trees are now strong and thrifty; they are also beautifully symmetrical, and we may now expect an abundant crop; at the same time I would entreat of every grower, not to be over severe on his trees by allowing them to bear too freely; rather err upon the opposite side, by well thinning the fruit; by this means the fruit will be more beautiful, and the trees preserved in thrifty growth.

This fourth season young wood must be laid in all over the tree,—say a shoot where each stopping took place, and one equidistant between these stoppings. The extremities of the branches must be trained out; in the case of all moderate growing trees they will require nothing more, but in very thrifty ones they should have one stopping as in the previous year. The future treatment of those trees will be the same as for all trees on trellises—namely, laying in young wood through summer; shortening and thinning it out in the early spring, and the usual routine of culture. A person glancing at the system of training which I have been endeavoring to elucidate, will, if they are acquainted with the fan systems of training, soon perceive a marked difference between that and this; under that system shoots are only partially shortened after the first and second year's growth, and some branches, as may be expected, grow much stronger, and after much care and labor, the symmetry of the tree is frequently lost by one or two branches growing much stronger than the others, when the tree becomes what is called one sided; this can never be the case under the system I have been describing, with a moderate amount of care. Under the old system a few fruit may be had on the third year, whilst under this system none will be had until the fourth.

This to some may appear an advantange, but it really is none, as the crop on the new system, the fourth, and all subsequent years, will be much greater than on the old, and the trees more thrifty and beautiful; the few fruit, therefore, obtained the third year, is not worth considering.

In laying before the readers of the Horticulturist the foregoing system of training, I must be understood it is not one of my own invention, but is that carried out by one of the *best practical gardeners in England*—Mr. T. Hatch, late gardener to P. J. Miles, Esq., Leigh Court, near Bristol; his fruit has been invariably abundant and fine, and his trees among the finest specimens in England, more beautiful and regular on the walls than any pencil can trace them on paper.

How frequently is a crop of fruit lost by having the flowers destroyed by frost, and bad weather, when in bloom. Now this may be prevented to a very great extent, and at trifling cost, with the trained fruit trees, or indeed any moderate sized specimens. Let us examine into the *cause* of failure, and we shall be better enabled to find a cure; and if the trees are healthy, it generally takes place in this way. On the disappearance of winter, say the end of March or beginning of April—it of course varies with season and locality—very frequently there are some warm sunny days which speedily bring peaches, nectarines and apricots into bloom, and this is frequently followed by weather cold and unpropitious, which totally destroys the bloom. If the trees, on the first approach of fine weather, had been protected by day from the sun, and kept cool, exposing them freely by night, the trees will be retarded in their blooming until a period much later than they otherewise would have been, and they will set a crop with much greater certainty. Mats, cheap muslin, or in fact any material to protect them from the sun, will answer this purpose. The common practice is to have the fruit trees come naturally into bloom, and when in this state to protect them by night, and also by day, in bad weather. Now the trees should be carefully protected from sun by day, and exposed at night—on the first approach of warm days in early spring—that they may be retarded to as late a period as possible. When the trees are bursting into bloom, reverse cautiously your treatment, and protect by night your expanded blooms, and cold bad days—through the day expose them to the genial influence of light and air, and abundant crops will repay the cultivator. Protection, many may imagine to be very expensive, or in other words, "will not pay," but let them try it on their best fruits, and their moderate sized trees. There are many things which

may be had cheaply, that will answer the purpose, and the amount of labor is not great. I feel confident as to the result. J. S.

Washington, D. C., Jan. 5, 1852.

MORE ABOUT THE SAGE GRAPE.

BY TWO CORRESPONDENTS.

THE letter of our correspondent, Mr. SHELDON, calling our attention to specimens of this native grape, and showing conclusively how it has been over-rated, which was published in our December number, has called out the two following letters—which we publish to settle the matter.

A. J. DOWNING, Esq.—In the December number of the Horticulturist, one of your correspondents and yourself, unite in denouncing the Sage Grape as a "humbug." It is true, there are a great many humbugs in horticulture. There is one large class, too formidable to be killed by mere exposure, but which taxes oppressively all the energies and vigilance of the cultivator to avert their ravages, even when he has discovered their mode and point of attack. The other, (which may be called the moral class,) is not quite so numerous, but will fly quite as fast—sometimes hard to detect, but when once discovered, just holding them up to the light destroys them in a trice. Neither class escapes your notice—and it should be so, for in some cases it is hard to tell which are the most mischievous and aggravating.

The public have so often been bitten by this *im*-moral class of humbugs, that they are afraid of anything which has been dubbed humbug, (which, by the way, are a progeny of the big-bugs,) and shun it without examination.

But I must object to your calling the Sage Grape by this unenviable cognomen in so much of a hurry. I have seen the grape from the original vine; have frequently eaten of them raised here; numerous friends and neighbors have tasted them; specimens have been sent to the conductors of the most respectable Journals of Agriculture, and to pomological writers, in our state. All, without exception, have pronounced them "good, excellent, sweet, possessing valuable qualities," &c., &c. Besides all this, the grape in question is *black* as the Isabella, instead of being light colored. A commendatory notice of the press first brought the grape into notice here.

A knowledge of these facts induces me to think that the "light colored variety" sent you, was either not the Sage Grape, or unripe specimens. Possibly the editor and his amateur correspondent, have been "sat upon" by some horticultural friends, and had Black Hamburghs administered to them till they have lost all consciousness of the fitness or worth of any native grape for the table.

When the Horticulturist containing the Sage Grape humbug was issued, a friend of mine happened to be in a town some fifty miles distant, where vines of this grape are in successful cultivation, and was suddenly accosted with, "well the Sage Grape is blowed up—it is all an exploded humbug." On being asked on whose authority, was told by the editor and correspondent of the last Horticulturist—and immediately added, "I don't care for that—my vine has fruited, and the fruit was good—I am satisfied." This man, like your correspondent, was induced to procure a vine by the description in ALLEN'S work. It seems in inducements they agree, in tastes they differ.

I earnestly insist upon these facts being placed before your readers in the pages of the

Horticulturist, that the testimony on both sides may be "in" before the honest reputation of the Sage Grape, (which has been steadily extending for five years,) be summarily consigned to disgrace.

I very well know the Editor's almost world-wide renown for a just and discriminating taste in every thing connected with horticulture and rural architecture. But I have heard it defferentially intimated, that when he penned the article on the Sage Grape, his literary taste was not quite so exquisite.

Please accept these remarks from a lover of the Horticulturist, and

A SUBSCRIBER FROM THE BEGINNING.

Groton, Jan. 5, 1852.

P. S. If you desire, or will venture another examination, I should like to send you specimens from here next autumn. [Should be very glad to receive them.]

REMARKS.—As Mr. ALLEN'S book on the grapevine is the authority on the subject of the Sage Grape, and as the disappointment in this variety arises from a comparison of the merits of the grape itself, with the account there given, we shall refer to the work itself, in order to get at the truth of the matter.

Mr. ALLEN does not himself, describe the Sage Grape. He never saw it. He merely says—"it is represented to be of a *lilac* color." He quotes three letters from Mr. SAGE, himself, describing the variety—a native grape found growing on the margin of a small stream in Maine. The color of the fruit he does not mention. But he says, "the berries are very round, average girth three inches." "They are," he continues, "the *richest flavored grapes* I have ever tasted. The pulp is very soft, juicy," &c. He concludes by saying, "I speak in confidence when I say that the Sage Grape, properly cultivated, will *surpass anything of the grape kind in this country.*"

What are we to understand by this? Clearly, that the Sage Grape ought to surpass Black Hamburghs, Muscats, and all the most delicious foreign grapes, for they are in this country. But we had seriously no idea of comparing any native grapes in this way, and therefore we expected it, from the description, to surpass the Catawba and Isabella, or at least compare with them. Now two things place the latter most excellent native grapes far below the best foreign grapes, in the estimation of all good judges; first, the hard pulp (peculiar to all native grapes, though less to those;) second, the *foxy* or wild aroma. The Sage Grape, according to the specimens we received through Mr. SHELDON, from Mr. SAGE himself, is a genuine wild fox grape, common enough in the woods of New-York, very large, round, very foxy in smell, and intolerably hard in the pulp. To compare such a grape as this with Black Hamburgh, is simply as absurd as to compare a choke pear with a Seckel. There may be, and we have indeed seen people, who like choke pears, and we are not going to quarrel with them for their taste—but that does not prove that the majority are wrong in preferring Black Hamburghs.

We have no doubt that Mr. SAGE wrote his account of the grape that bears his name, in good faith; but when he said that it would surpass "anything of the grape kind in this country," he ought to have added the following:—P. S. I have never tasted any good grapes.

We have had this very same pale fox grape sent to us from various parts of the country, by persons who extolled it as a native white grape of wonderful size and most delicious flavor.

The merit of this pale red fox grape is solely confined to its excellence for making jellies, a merit well known in the middle states. For the table, it is neither more or less than a humbug. If our correspondent thinks the grape is black, he has evidently not got the

true Sage grape, or else Mr. SAGE himself has not, because, as the following letter from another part of the country will show, he has sent the fruit to others, and with the like results. ED.

DEAR SIR—Being a constant reader of the Horticulturist, I occasionally meet with an article, to which I am tempted to reply. Such an one is contained in the December number of the Horticulturist, (p. 575) in reference to the celebrated Sage grape, so highly praised by Mr. ALLEN in his work on the vine, which work fell into my possession soon after it first came out.

On seeing the Sage grape therein described, (as would be the case with almost any green one) I immediately ordered a vine, which is now well established, and should bear handsomely by next summer; but like others, (as I understand,) I could not wait to see the fruit on my vine, (which by the way cost me just $5, by the time I received it,) I ordered a box of the fruit from Mr. H. E. SAGE, of Portland, Conn., the originator of it. With what impatience I awaited them, can well be imagined by any one who has read Mr. SAGE'S descriptions of it in Allen's work. They came, in sound order; before opening the box however, I smelt a fox, but here they were, to me to a tune of a dollar and fifty cents, as freight on the box, which had in it about three quarts of the Sage grapes, exclusive of the price of the grapes, (a bill for which has never been sent me yet.) On opening the box, I was really surprised at the enormous size of the fruit, but on tasting them! !—you have tasted and described them, Mr. DOWNING, that will do. It would have tickled one who has eaten good grapes, too see the watery eyes and coughing fits, that about a dozen of the largest of the grapes caused among a party, where I first opened the box. I had written to N. LONGWORTH, Esq., on the subject of this grape; he stated that he had seen it about Philadelphia, that it was "*a full blooded Fox grape, and might answer as musket balls in time of war,*" which was, in my opinion, a pretty appropriate remark. If I had my choice to be shot with one of them, or swallow half a dozen, I of course would prefer the latter punishment however.

An old saying is, give every dog his due. As a table or wine grape the Sage will always be excluded; but here let me say in its favor (for it will be roughly handled, which indeed the grape individually can very well bear,) that, for making excellent *jelly*, it has in my estimation no superior, if even an equal; while grapes of a much finer quality for eating, or wine, make a very thin juice, and must be boiled down to give body, the Sage grape makes a thick syrup, and retains a peculiar aroma which suits exceedingly. I only mention this quality of the Sage grape, as a sort of plea of compassion, as we all know a falling reputation receives a kick from every one. If the Sage grape is as good a bearer as it has been represented, I think, honestly, one vine might be well worth cultivation.

Yours respectfully, SAMUEL MILLER.

Union Cottage, N. Leb., Dec. 26, 1851.

SELECTIONS OF BEST FRUITS.

BY P. P., NEW-YORK.

WHAT is the question, Mr. EDITOR, that more of your correspondents are likely to ask about this time of year, than any other? "What are the best Fruits?" They are busy with head-work, while the ground is frozen up—planting orchards and fruit gardens in imagination; just as some people build castles in the air. They sit by the fire-side, with

fruit books and nursery catalogues in hand; they makes notes of sorts that are "delicious," "first rate," "melting," "sugary," "excellent," &c. They stock their future garden with everything rare and wonderful, and giving full reins to their imagination, they see that garden full of bearing trees, laden in the spring with blossoms white as snow, and in the autumn with baskets upon baskets of golden and ruddy pears and pippins. This is the way amateurs and young planters "count their chickens before they are hatched."

In my humble opinion, the beginners in fruit culture would be immensely the gainers, if the old veteran horticulturists among your subscribers, would all come out and give their lists of the best fruits. I mean those who have "seen the elephant," i. e., bought and imported most of the new French pears, and all other fruits that stand high on the pages of foreign catalogues. All such know how much *chaff* there is to a bushel of sound wheat, and if they would but come out and state what is really good, it might save the rising generation of planters all the trouble of trying experiments, losing time, and wasting valuable ground, that they mostly fall into. There is little doubt in my mind, that of the millions of fruit trees planted in this country in the last fifteen years, two-thirds are of very indifferent quality—not worthy of ground room and cultivation. I shall, therefore, give you a few rough notes of some sorts that I *know* to be worthy of a place in every fruit garden of considerable size, at least in the nothern states.

Pears.—I place pears first, because they are my favorite fruit. To begin, I would plant but three early summer pears, viz: the Dearborn's Seedling—always a sure and most abundant bearer, and the fruit always fair, sprightly and of excellent flavor; the Rostiezer, from its sweet and pleasant flavor, and hardy habit; the Bartlett—the hadsomest of pears, and most popular from its fine quality, free growth, and sure productiveness. These are all reliable standard sorts everywhere, and as the first ripens in August, the second early in September, and the third the last of September, they fill up the season well till the autumn pears come in.

Of autumn pears I would choose six. First, the Belle Lucrative, (on quince,) because of its most delicious, honied flavor—so much prized at the dessert. Then the Paradise of Autumn, for its handsome size and first rate quality; then the Louise Bonne of Jersey, for its sprightly juicy fruit, and its productiveness; then the Beurre d'Anjou, for size, flavor and productiveness; then the Duchess of Angouleme, (on quince,) as the finest show pear; and finally the Seckel, as the *unapproachable* in flavor, and all other good points. I have not included the Doyennes—white and gray, because they will not thrive well, except in *new* soils—but where they will thrive, they should be placed *before* nearly all others. Of winter pears, I would recommend four. Beurre d'Aremberg—hardy, very productive, with a pine apple flavor; the Lawrence, handsome, and very sure, and good; the Winter Nelis, sweet and excellent, and the New Gray Winter Beurre, with its rich Brown Beurre flavor. The Beurre d'Aremberg and the Lawrence may be gathered and put away to ripen, with no more care than winter apples—and that is more than can be said of any other sorts.

So much for pears; the list is small, I know, but it is much easier to make a large list than a small one—for obvious reasons, and those who want more can either *double* the number of trees of these sorts, (my advice,) or add others of less merit.

Let us see what we can do with apples. For early apples I choose four sorts. The Early Harvest—which is the prince of all summer sorts, both for the table and for cooking; the Early Strawberry, for excellence and beauty; the Summer Bellefleur, for its delicate, rich flavor; and the American Summer Pearmain, for its beauty and excellence in all respects. Of autumn apples, I will only name four, as we have so many other fruits

for the table at that season. The first of these shall be the true Fall Pippin—the largest, handsomest, and finest of all fall apples; the Gravenstein, for its beauty, excellence, and productiveness; the Porter, for its standard qualities and the great crop it gives, and the Golden Sweet, for those who like a sweet apple of the first class.

Of winter apples we must have more—as they are the fruits to stand by when everything else fails us. Let us begin with the Yellow and Green Newtown Pippins—the best apples in the wide world; then the Melon Apple—as being the most sprightly and refreshing of all for the table; then the Mother Apple—rich in flavor; then the Golden Bellflower, a productive and refreshing tart apple; then the Ladies' Sweet—the best of sweet apples; then the Fameuse, so snowy white within, and so excellent; then the Dutch Mignonne, the highest flavored large apple; the Rhode Island Greening, for the table and all culinary purposes; the Esopus Spitzenberg, for its rich, crisp texture, and high flavor; the Swaar, for its fine golden color, and aromatic taste; the Baldwin, for many good qualities; the Roxbury Russet and the Rawles Janet, as the two best very late apples. Every one at the north will add to this select list, the Northern Spy, and every one at the west, the Pryor's Red.

Let us next winnow the Cherries. Of tender cherries, let us say May Duke, Rivers' Amber, Elton, Black Tartarian, Downer's Late, as among the best. Of the firmer fleshed cherries, let us say Rockport Bigarreau and Yellow Spanish. To these we ought to add two cherries of the Mayduke family—very desirable; first, the Reine Hortense, large bright red, sub-acid, nearly sweet, and excellent; and Belle Magnifique, acid, late, handsome for preserving, and very productive.

Nobody wants many Apricots or Nectarines. It may be as well to say that the best sorts for hardy culture, are the Downton and Elruge Nectarines; and the Breda and Large Early Apricots.

It is not worth while to plant many PLUMS, unless the soil is stiff and clayey, or it is found from experience that the curculio is not at hand to spoil your crop, annually. The ten varieties I would name as most valuable for general purposes, out of fifty or more that I have tried, are the following: Green Gage, Purple Favorite, Smith's Orleans, Red Diaper, Imperial Gage, Jefferson, Lombard, Washington, Imperial Ottoman, and Reine Claude d'Bavay.

Neither will any old cultivator multiply names in Peaches. Better to have fine trees of the two good sorts, than five more indifferent sorts, for variety. The best early freestone are Early York, (serrate,) Cooledge's Favorite, George Fourth, Haine's Early; the late freestones are Old Mixon, Snow, Late Admirable, Druid Hill. A tree or two of large White Cling, and if your soil is warm, of Heath Cherry, should find a place in every garden.

I will not go into the smaller fruits at present. Enough has probably been given to throw a little of the light of practical experience upon the long lists which the beginner has to select from, to help him from being altogether lost in the Dismal Swamp of hard names. And he may at least feel sure that every sort that I have named, has been well proved in the climate of New-York state. Yours respectfully. P. P.

NOTES ON LANDSCAPE GARDENING.

BY THOS. MEEHAN, PHILADELPHIA.

DEAR SIR—Landscape gardening is a source of the highest pleasure to those who patronise it. Those who hold pleasure to be the result of mere accident, do landscape gardening a great injustice. Pleasure is the result of laws as fixed as those which produce heat and light, rest or motion. So, the more clearly the true principles of landscape gardening are understood, the more perfectly are we enabled to know how they can be applied to the production of the highest degree of pleasure the art can afford.

Extensive gardens are being formed everywhere. The fund of pleasure their originators are laying up for themselves, will be great. That fund would be infinitesimaly greater, if more deflnite ideas of the sources of pleasure in gardening existed.

It has become very general for those who originate new gardens, to be their own landscape gardeners. Were every one born an artist, any one might justly deem himself capable of laying out his own place in a manner capable of affording ultimately the highest pleasure; but it is not so. There are innumerable instances of gardens among the newer places, which afford no pleasure to any one, and which the proprietors themselves, feel to be a dead weight upon their enjoyments, and their purses, from no other cause than ignorance of the very alphabet of landscape gardening, in those who originally projected them. For a time they were interesting from their novelty, till, like the novelty of children's toys, they no longer pleased, and were eventually cast aside for other novelties, and became an incumbrance. In excuse or toleration of such misfortunes, it is often said that every man derives most pleasure from "doing what he likes with his own." Any man might feel some pleasure in deciding to cut with his own hand, a "Greek Slave" in a block of marble,—but I guess that a more real, a more lasting, and more substantial pleasure, would ensue from the employment of the life-giving chisel of a high artist like HIRAM POWERS, on the senseless block.

I am ashamed to make the comparison. It is ridiculous. Applied to landscape gardening it is more so. It is the work of a higher order of genius, to create a pleasing landscape in its generalities, and in its details, than to form a piece of sculpture of ordinary merit. Genius does not rule so proudly in poetry or music, drawing or painting, as she does in the art of landscape gardening. All other arts are content to imitate or represent nature —but landscape gardening has often to employ in her efforts, the aid of all other arts, and often to create even the very materials out of which she produces her happiest results. Could any produce an equal to the beautiful landscape paintings of CLAUDE LORRAINE? If this be difficult, how much more difficult the aim of the landscape gardener, who has to produce in nature the superiors of the picture? It is difficult to arrange the scenes in a landscape painting, so as to give expression, character, and harmony, to each with the other,—but it is more difficult to arrange these in nature. In a picture, scenes, rarely corresponding—yet beautiful in their corrsepondence, can be brought and conjoined together with a fascinating effect. The imagination often, indeed, supplies the place of realities. The landscape gardener has a more difficult task. He, too, must bring together, harmoniously and expressively, scenes too beautiful to be often seen in one whole, naturally. His imagination, too, must play, but far more cautiously, than that of the painter—because he has a higher and sterner tribunal to decide the value of his work, than the painter has. Nature deputizes to man her right to sit in judgment on the result of the painter's genius; on that of the landscape gardener she sits herself. Mankind have sympathies, give allow-

ances, make extenuations; their knowledge of the constitution of nature is also limited—thus the painter has less to fear. Nature, herself, whose judgment the landscape gardener dares, judges his works according to the strictest letter of her law. Hence, if it be absurd for any mere amateur to paint his own pictures, under the impression that they would be perfect specimens of the art, it were decidedly more so in the case of one who deemed himself capable of laying out extensive grounds in the most perfect style of art, and consequently of obtaining as much pleasure from his garden as it might be capable of affording.

These gentlemen are at fault. They mar their own enjoyments. But they are not entirely to blame. There are so-called landscape gardeners, with whom everything must be *this*, or it is not natural—*that*, or it is not beautiful. Whatever stands in the way of *this* or *that*, must come down, must be torn away. *This* tree, that may have stood "a thousand years the battle and the breeze," must at last fall; *that* "mountain must be removed, and cast into the sea." Everything must be levelled for the grade of their imagination, which cannot turn to the right or to the left, from the object before it. Few proprietors can stand this ordeal. Few could have the *nerve* of a HAMILTON or a LYON, who could desire and effect the death of a *Quercus pcterophylla*—the only known specimen in the world—for the poor equivalent of one more view of a bend of the beautiful Schuylkill—or of those who prefer the one or two year old silver maples, planted with mathematical precision by rule and square, in Penn Square, Philadelphia, to the noble trees that originally flourished there.

Landscape gardening, to be pleasing, must be accommodating. Nature herself, is so. In the plains she will give the Oak, the Beech, the Birch, a giant height and strength; on the hill sides and elevations she checks their luxuriance—while on the mountain summits she reduces them to the rank of mere bushes. They, therefore, who follow the "natural style," may learn from this, that its results depend on their *application* of natural laws, rather than on any abstract formulas of *lines* or *circles*. Mankind generally run into extremes. Landscape gardening confirms this truth. The old system of squaring all walks, carrying them at right lines and angles, shearing and clipping every tree, and making everything so exactly correspondent, was so very absurd, that in the revulsion of ideas that followed its reformation, a *line* in any way, became an unpardonable offence against the new creed. And it is so to this day. Let it be the work of our generation to make extremes meet. Nature is not all lines or all circles. It is a beautiful mixture of both. The sun, earth, and celestial bodies are round, the dew-drops are round; the rivers and streams bend, and wind, and curve; the eye, the head, the limbs—all show forth in many a modification, cylindrical, bending, and sinuous forms. But yet these are intimately connected with straight lines. The bold, determined looking curves which the branches of an old Tulip Poplar present, are beautiful; but the effect is considerably heightened by the tall and arrow-like straightness of the trunk which supports them; and gaze in admiration as we may, on the rounded symmetry, and curved proportions of some beautiful specimen of human kind, we cannot forget the linear lines, or longitudinal dimensions, that give relief, strength, and body to all the rest. Indeed, there is often beauty in a straight line, a beauty which nature frequently employs and glories in. It is her symbol of *utility*—it is the philosophy which she employs to show *why* she is beautiful. The idea of *utility* is always pleasing—it is diffused throughout all nature; the landscape gardener ought never to lose sight of this. Utility is the basis on which all ornament in nature rests. Whatever in art cannot be shown to be useful, is therefore nothing but extravagance. A perfectly straight line in gardening is useful; though entirely unadorned, would be more

pleasing and more beautiful, than the most graceful curve would be without any useful object, either apparent or real. It is but an one-sided view of nature that denounces the "Quaker-like straightness" of the streets of Philadelphia; but they are beautiful because they are in character and in keeping with a place of labor and of business. There is no beauty in the idea of having to go round the circumference of a circle on a matter of business, instead of driving straght through its diameter, unless there can be beauty in an inconvenience. Nor is it in reason that avenues should be denounced in all circumstances, or all occasions. They are often abominable, but sometimes grand. What could supply the want of the short wide avenue that leads from Walnut-street, Philadelphia, through the square, to the venerable old Hall of Independence? or who would object to the magnificent avenues of live oaks, a hundred years old, that adorn many of the fine plantations in Carolina.

It follows, then, that a curved line is not pleasing, merely because it is a curved line; nor is a straight line to be objected to, merely because of its straightness; either case will depend upon its being in character with its aim and purpose. It is the *expression* that governs the beautiful, and whatever is beautiful must be founded in nature. The landscape gardener has but to give a meaning, has but to stamp an expression of beauty upon his works; then, no matter whether his principles of design be circles, curves, or straightness—whether they be squares or triangles—whether his materials be foreign or indigenous, exotic or native, American or English—his works will please.

I again repeat my conviction, that many gentlemen do not employ professional talent in the laying out of their grounds, because they imagine that their own ideas, tastes, and views cannot be respected—that everything must bend to the exact principles on which the artist he might employ deemed "nature" to rest. Would it not be better to give up this pretension of following nature? Better to follow after nothing, or rather to imitate nothing, but to create for ourselves? It is folly to pretend that we can make our work appear to have been done by "nature herself." Let us *avow* our art. We value a picture because we know it is a picture, and not that we believe we are looking at something real; in like manner let us wish not merely to have our work valued because we have tried to "imitate nature," but because we have heightened the beauty of some portion of nature for ourselves.

THOMAS MEEHAN.

Bartram, near Philadelphia Jan. 10, 1852.

DETAILED CULTURE OF THE GRAPE IN VINERIES.

BY WM. CHORLTON, STATEN ISLAND, N. Y.

DEAR SIR—I respond with pleasure to your wishes respecting the description and management of the cold vinery, erected two years ago, at this place, by my employer J. C. GREEN, Esq.

The house is 74 feet long, and in other respects, the same as Mr. VAN RENSSELAER'S at Clinton Point, described in a late number of the Horticulturist, with the exception of there being only two rows of pillars inside, which gives a pathway six feet through the middle of the house. There are 24 vines to each roof, and 14 on each side of the pathway, being one to each pillar, making a total of 74 vines. The base soil of the borders is a tenacious, hazelly loam, resting upon an adhesive gravelly bottom. The borders are 20 feet wide on each side of the house and twenty inside, giving a breadth of 60 feet and length

of 74 feet. A drain three feet deep, and filled with rough stones to the level of the lower base of the border, extends all round the outside, and also another on the lower end to convey the water off, the whole base being on a slight slope. Underneath the whole bed is a layer of oyster shells five inches deep, so that the entire borders rest upon drainage with a free outlet for water by the outside drains. The materials made use of in forming the borders, which are not more than two feet deep, (18 inches below and six inches above the level,) are the base soil above mentioned, 60 barrels of bone dust and 40 tons of stable manure well decomposed, being about one bushel of bone to every three, and one ton of manure to every twelve square yards.

The vines were obtained from Mr. BUIST of Philadelphia, and with the exception of three, were one year old. They were all planted inside of the house in March, 1850, the roots being carefully spread out and placed on small mounds on the surface, having about two inches deep of soil covered over them. They were pruned back to the lowest good eye, and when they commenced growing freely, water was administered plentifully over the house, and a humid atmosphere kept up, more particularly in dry and hot weather; excepting on cloudy damp days, the vines were syringed over head every evening, and the floor damped too or three times during the day. During the hot weather the borders were lightly covered with the refuse grass from the lawns. *The lower ventilators were not opened till the vines began to show appearance of ripening*, and the thermometer kept through the day from 90° to 100° while growing freely. On dull cloudy or rainy days, with an *east or south-east wind*, the house was kept closed, and a little sulphur strewed over the floor to prevent mildew. The laterals were shortened in to an eye as they were produced. In September appearances of maturity were visible, and water was gradually withheld; the lower ventilators were now opened gradually in the day time, increasing the air as ripening progressed.

After the middle of October, water was entirely withheld, at which time most of the vines had run up to the top of the house on one side, and as the heads were not stopped, down to the bottom on the opposite side. The leaves were allowed to remain on till they fell off, quite yellow and mature, leaving the canes well ripened and short jointed, most of them being three-fourths of an inch in diameter, with fine plump and well rounded buds and a uniform growth throughout the house.

They were now pruned in to about an average of six feet on the rafter, and each other eye on each side of the cane disbudded, leaving those intended for next season about twelve inches apart. A covering of straw was wrapped round them and they were tied down horizontally. The borders outside were covered with salt hay. The house was kept open except in severe weather or rain.

By the middle of March the buds showed signs of bursting, the vines were uncovered, and a good syringing given, which was repeated two or three times a day in mild, but withheld in cold weather. The heads of the vines were kept down in a horizontal position till all the eyes were well burst, when they were taken by degrees, according to development, and tied to the wires, the tops being allowed to hang pendant till all parts were equally broken. The flower bunches were now approaching towards bloom, and as it was not intended to allow the vines to bear heavily the first season after planting, most of the lower bunches were taken out to encourage the bottom side shoots to become as strong as the top ones, and on each other eye, higher up the cane, a bunch was allowed to remain. As the blossoms expanded, the atmosphere was allowed to become somewhat drier, and syringing was withheld overhead; the bunches were occasionally shaken to distribute the pollen and assist in fertilizing the stigmas. After blooming, and when fairly set, all

bunches not wanted were removed. The berries, when about the size of peas, were thinned out carefully, leaving the berries on smaller kinds closer, and on the larger ones more distant; the shoulders were tied up, and the clusters pegged out. Very little after-thinning was required. The borders were uncovered at the same time as the vines, and slightly forked over, and a dressing of compost laid over, (both inside and out,) about three inches thick, composed of three-fourths turf sods, one-fourth stable manure, and a light addition of sugar house refuse. These had been mixed the season before, and were well incorporated together.

When planted, the crowns of the roots were somewhat elevated, which enabled me to apply this dressing to advantage, as the small fibres were quite matted underneath the surface. The same treatment was adopted throughout the summer as last season, till the grapes began to color, when water over head was discontinued, but occasionally applied to the roots inside the house, to enable the crop to ripen off well. The borders outside were lightly mulched throughout the summer, with stable manure, and a thorough good soaking of water was applied three times during the long drouth.

On the second of August were cut, fully ripened, and well swelled, the first bunches, (Malvesia and Joslin's St. Albans,) being a little under seventeen months from the date of planting. Other kinds matured in succession; the whole crop being two hundred and sixty-two bunches, well colored, some of the Hamburghs being over two and a half pounds weight, and the other kinds being equally fine.

From the present state of the vines, I do not hesitate to say that from six to seven hundred bunches may be taken from them next season, without injury. In pruning this fall, I have cut the side branches back to a good and plump eye, with the intention of taking two shoots from one spur, each (farthest from the main stem, for fruiting,) and one close to the base, (not to be fruited till the season after,) when the spur may be cut back, thereby keeping the side shoots "at home," without stubbing in so close, and ensuring finer bunches. The top growth is cut to about six feet, and dis-budded as last season, leaving the canes over twelve feet long, and in good condition at the end of two seasons planting, to bear a full crop.

Hoping the above description may assist in stimulating the lovers of this inestimable fruit to erect houses for its cultivation, as no fruit-bearing plant is more easily grown, or gives greater return for kind treatment, I am yours most respectfully,

WM. CHORLTON,

Gardener to J. C. Green, Esq., New Brighton, Staten-Island.

[We thank Mr. CHORLTON for his very practical and valuable communication. We would be glad to receive many more just such as this from our practical readers, who know but will not communicate their knowledge. ED.]

Foreign and Miscellaneous Notices.

Horticultural Novelties at Exeter.—If the reader would wish to know what is doing in this country, in the importation of new plants, he must visit Exeter. Near that ancient city lies a gentle valley, forming the nursery occupied by Messrs. Veitch & Son, in which alone will be found more new and valuable plants than in any place in Europe, with the single exception of the Royal Botanic Garden at Kew—plants obtained by private enterprise for commercial purposes, and not gathered together by the power of a mighty government. By means of excellent collectors, (two brothers of the name of Lobb,) and liberal disbursements, California, Peru, Chili, Chiloe, Patagonia, in the West; and the Khasija hills, the provinces of Tenasserim, Java, Malacca, and the ghauts of Malabar, in the East, have been gleaned, and the result is gathered into hot houses or transferred to the open air, in the fertile soil and happy climate of Devonshire. Let us record a few of the species which caught our eye on a recent visit to this wealthy establishment.

First among the new plants is to be mentioned Saxe Gothœa conspicua, a most beautiful evergreen from the Andes of Patagonia, with the aspect of a Yew tree, which H.R.H. Prince Albert, has permitted to bear one of his names. This tree has lived four years in the open air, and has all the appearance of being as hardy as an Araucaria. From the same country comes Fitz-Roya patagonica, another valuable Conifer, with drooping branches, and also the habit of a Yew; with the Libocedrus tetragona, an Arbor-vitæ-like tree, having four-cornered shoots; all exclusively in the possession of Messrs. Veitch.

Among other evergreens, the existence of which in England is unsuspected, is the great Oblique Beech tree from Patagonia, (Fungus obliqua;) Eucryphia cordata, with hard heart-shaped leaves, and flowers like a Tea plant; Castenea chrysophylla, the Evergreen Californian Chesnut; great bushes of Philesia, just beginning to produce their crimson tubular flowers, two inches long, in the midst of hard stiff deep green leaves; Pernettya ciliaris, with its black-green broad leaves and heaps of dull purple berries, not to mention the other species mucronata and augustifolia, loaded with pale berries, gay with ruddy tints; Larus aromatica, a Chilian evergreen, whose leaves are much more fragrant than Sweet Bay; Embothrium coccineum, with long tufts of crimson blossoms; Eugenia apiculata and Myrtus Ugni, Chilian Myrtles, the latter with a fruit like a purple Guava; and finally, the rare and curious Desfontainia spinosa, with the air of a Hollybush, and the flower of a scarlet trumpet Honeysuckle. Of this, one single flower has been produced upon a cutting in a pot.

Many are the new or little known evergreen Berberries collected here; B. Darwinii, growing into a round, glittering, exquisitely beautiful bush; B. flexuoso, a handsome shrub, with straggling branches; B. lutea, a pretty diminutive thing; and several other species at present undetermined. Eurybia alpina, from New Zealand, here vindicates its claim to hardiness, along with the Escallonia Pæppigiana, a Peruvian bush, loaded with white flowers early in the summer, and a great stiff-leaved Dracæna, from New Zealand, which may be Dr. indivisa.

Nor are deciduous hardy plants less common here. An Indian palmated Rubus is loaded with yellow fruit as large as an Antwerp Raspberry; great masses of a north wall are covered with the scarlet perennial Tropœolum speciosum, which disregards frost but abhors the sun; the hairy-stemmed Tropœolum Lobbianum, is curling round a rough stake, and decorating it with its vermillion colored flowers; and Pavia Californica, the California Horse Chestnut, has established itself in the open quarters of the nursery. Quantities of the huge Indian Lilium giganteum are hastening to prepare for flowering another year, and heaps of rock-work are glittering with Oxalis speciosa.

Among plants of home origin, we ought to point out the Hedera Ragneriana, a kind of Ivy, with monstrous heart-shaped leaves; Cotoneasters and such plants worked half standard high on the common thorn; a noble looking Holly called Ilex alta-clerensis, which seems to have some of the blood of balcarica in it; a handsome variety of Arbutus Andrachine, called photiniœfolia, and most beautiful specimens of that noble Fuchsia corallina, whose origin has lately been disputed, but which bears unmistakable evidence of having been derived in part from F. radicans or some allied species.

This sketch of the hardy plants that are already saleable in this establishment, renders an account of the tender plants less interesting for the moment. To them we may return hereafter. For the present it is sufficient to name among the new plants, Lapageria rosea, a climber from Chiloe, with very large crimson blossoms; a fine Hoya, with long leathery leaves, some most elegant Indian Sonerilas with variegated foliage, a Peruvian Begonia, whose leaves are one confused stain of crimson, purple, green, and silver gray; Cinchona Condaminea, one of the true peruvian bark trees, a plant with a most delicious perfume, now flowering for the first time in Europe; and quantities of Indian Orchids, among which the D. albosanguineum stand pre-eminent. As to the Orchids, no plants can exceed their health and beauty, unless it be the choicest of M. Rucker's collection. In short, turn where you will, the eye meets nothing but what is most fine and rare, in this surprising collection of the Messrs Veitch.—*Gard. Chron.*

Domestic Notices.

THE POETRY OF WHITTLING.—The Rev. JOHN PIERPONT, in a clever and witty poem, delivered at the centennial celebration at Litchfield, Conn., thus admirably sketches the universal New-England juvenile habit of whittling, and its significance in more ways than one;—

The Yankee boy, before he's sent to school,
Well knows the mysteries of that magic tool,
The pocket knife. To that his wistful eye
Turns, while he hears his mother's lullaby;
His hoarded cents he gladly gives to get it,
He leaves no *stone* unturned, till he can whet it:
And, in the education of the lad,
No little part that implement hath had.
His pocket knife to the young whittler brings
A growing knowledge of material things.
Projectiles, music, and the sculptor's art,
His chestnut whistle, and his shingle dart,
His elder pop-gun with its hickory rod,
Its sharp explosion and rebounding wad,
His cornstalk fiddle, and the deeper tone,
That murmurs from his pumpkin-leaf trombone,
Conspire to teach the boy. To these succeed
His bow, his arrow of a feathered reed,
His wind-mill, raised the passing breeze to win,
His water-wheel that turns upon a pin;
Or, if his father lives upon the shore,
You'll see his ship, "beam-ends" upon the floor,
Full rigged, with raking masts, and timbers staunch,
And waiting, near the wash tub, for a launch.
Thus by his genius and his jack-knife driven,
E're long, he'll solve you any problem given;—
Make any gim-crack, musical or mute,
A plough, a coach, an organ or a flute,
Make you a locomotive or a clock,
Cut a canal or build a floating dock,
Or lead forth Beauty from a marble block;—
Make anything, in short, for sea or shore,
From a child's rattle to a seventy-four:—
Make *it*, said I? Ay, when he undertakes it
He'll make the thing, and the machine that makes it.
And, when the thing is made,—whether it be
To move on earth, in air, or on the sea,
Whether on water, o'er the waves to glide,
Or, upon land, to roll, revolve, or slide;
Whether to whirl, or jar, to strike or ring,
Whether it be a piston or a spring,
Wheel, pulley, tube sonorous, wood or brass,
The thing designed shall surely come to pass;—
For when his hand's upon it, you may know,
That there's go in it, and he'll make it go.

CRANBERRIES ON DRY LAND.—A great deal has been written and said, the last two years, about the possibility and profit of cranberry plantations, made on dry upland. Knowing the habits of the wild cranberry to be fixed and not variable, we have never had the least faith in the practicability of cultivating this sub-aquatic plant in this way. We notice that several of the so-called successful experiments, have at length turned out failures, and it will be found that people who wish to grow cranberries for *profit*, must have the command of low grounds —or an abundant supply of water. If ever the cranberry is made to thrive on dry lands, it will be by raising it from *seed*, and so gradually adapting the constitution to the absence of moisture—and not by taking the wild plant from the swamp where it grows naturally.

HUSSEY'S REAPING MACHINES.—It would appear from the English papers, that Hussey's Reaping Machine, (which we believe has always had the preference of experienced judges in this country,) has taken the first rank in England, after repeated trials in the open field. At the Great Exhibition trial it failed, from not being in working order, and from having been managed by a common porter. The Cleveland [English] Agricultural Society, however, appointed a special jury to test MCCORMICK'S and HUSSEY'S machines. Over a thousand persons were present, and Hussey's machine was pronounced by the judges, superior to McCormick's: "doing more work, causing less waste, cutting the grain in a better manner, and being less in cost." Foul weather in harvest time, is far more common in England than America, and Hussey's machine has proved its superiority on trial, particularly as regards its capacity for cutting grain in a wet and fallen harvest. We understand the foreign demand for this Reaping Machine is large, and that Mr. HUSSEY is taking out patents in France, Russia and Prussia. It is pleasant to find that Brother JONATHAN can take the lead in the harvest field of the old world sometimes, though Prof. JOHNSTON, the profound, has said we were all beggarly farmers.

HYDRAULIC RAM—VINERIES, &c.—Mr. DOWNING—Dear Sir: I wish to trouble you with a few inquiries about the water ram, and glass structures, such as cold graperies. The principle of the water ram has been made plain, through the Horticulturist and other papers, but the cost of the apparatus, and the effective force of the instrument, with the conditions necessary to its use, are data which I have been waiting some three years to know. We have never been able to learn what relative quantity of water is required to be discharged, to elevate a certain quantity a given height; nor have I

been able to ascertain how great a fall is essentially necessary to the effective operation of a ram, elevating water say 25 or 30 feet. I have been induced to trouble you with these questions, thinking you might be familiar with the practical operation and *economy* of this instrument, or could refer my interrogatories to some manufacturers of your acquaintance, who, I suppose, are prepared to give all necessary information in regard to it.

I am beginning to feel the want of a vinery, which, without heating apparatus, I conceive to be a simple and plain structure, but am unable to devise means to prevent injury from hail storms. I don't know whether you are subject to the fall of hail of sufficient size to endanger these structures, or whether you use shutters. It strikes me that shutters, unless entirely removed, would intercept too much light; but I am quite afraid to risk them, where hail from half an inch to one and a half inches in diameter, sometimes falls. Another question arises, which I wish to ask you. My farm is one mile in extent in its longest measurement, and presents an undulating surface, with several good building sites, which I design to improve for my tenantry. I would like to improve the different sites with houses of different style, to give variety, (am I right?) and wish to know if I should place edifices in the pointed style on the highest eminences, or the lowest. You will probably consider this a very foolish question for any one to ask, but I assure you that I am content to ask simple questions in regard to what constitutes good taste in architecture and the landscape, and trust you will pardon the same, when you consider that I have a new farm, directly from the hand of nature, and am located where I have not the benefit of erudite example.

I have now in cultivation and in English grass, near 300 acres of my 420, and when some twenty-five more have been subdued, I shall direct my energies to the ornamental improvement of my timbered lands.

I obtained some good Devon cattle from Michigan this fall, as a beginning of my original design, formed seven or eight years ago, to stock my lawns with choice breeds of animals; and shall be able to have them sufficiently increased, with what additions I hope to be able to make by the time I get my grounds ready, to make a respectable show in the way of stock. We have had a delightful autumn and early winter—no cold weather until the 12th of December. Since which time, the thermometer has ranged below zero, the greatest portion of the time, sometimes as low as 20°; so I suppose we may say good bye again to the peaches. Yours, respectfully, J. W. *Muscatine, Iowa.*

Remarks.—As almost every case where the hydraulic ram is used, differs slightly from another, we can only generalize in our answer to our correspondent's first query. The fall needed in most cases, is from three to four feet; the quantity of water forced up by the ram, (say at 200 or 300 feet distant, with 30 or 40 feet of elevation,) is about one-tenth; that is nine gallons of a given supply from a spring or stream, are used in obtaining the power necessary to force up one gallon. The cost of the ram itself, (usual sizes,) varies from 12 to 18 or 20 dollars. Besides this, enough lead pipe is needed to convey the water from the ram to the place where it is wanted. This is usually half-inch pipe, worth, at the manufactories, five or six cents a running foot; also about 20 feet of one and a half-inch pipe, to drive the ram, worth 25 or 30 cents a foot.

Severe hail storms occur occasionally here—though not so frequently as at the west. It is rarely the case, however, that greenhouse glass is greatly damaged by it. A shower of very large hail stones—averaging three-fourths of an inch in diameter, took place last autumn, while we were at a gentleman's seat upon which was a range of glass neraly two hundred feet long. The owner expected to find the glass roofs entirely destroyed after the storm. But only 60 panes were broken among so many hundreds. The steeper the roof, the less the breakage. What is termed "double thick" glass,—made especially for greenhouses, is much stronger, and is rarely broken.

In building several tenant houses upon a single piece of property, we would much prefer to construct them all in one general style—or with only slight variations, growing out of different sizes, positions, and wants. The passion for *variety* is the bane of modern art. It is at variance with *simplicity*, certainly one of the noblest and highest beauties of art, and it destroys breadth of repose and expression. When

a man always pursues a certain consistency in all that he does, he stamps the rank of character on his actions; when he changes his plans and motives every day, we say he has no character. So, in building a city, a village, or even the cottages on a farm, let every man's house be different, (as they are in the city of New-York,) and the effect is only that of a confused jumble. But let certain portions of a city, or the whole of a village or country place, show distinctly some one single pervading influence or feeling in design, and a character of dignity and importance, is at once conferred. Variety is a good thing, but it is only a secondary source of pleasure—based on the weakness, rather than the strength of man's nature. Ed.

A Few Remarks on Cherries.—*Triumph of Cumberland.*—I have a cherry which passes under the name of the Triumph of Cumberland, which, as far back as I can trace it, originated at the Cumberland county almshouse, (a seedling.) The last two years it has been the finest cherry among about forty varieties of all the choicest cherries now in use—of the very largest size. It would, this last, and the summer before, cast into the shade such as the Black Tartarian, Holland Bigarreau, Bigarreau de Mezel, Napoleon, and all others that I had, in point of size, and second to none in point of flavor. Its form is much like that of the Black Eagle; it is a deep red when ripe, and it ripens about medium season.

I am satisfied that the variety is not much known out of this state, and as a nurseryman, would not attempt to give it such a recommendation, were it not that I have not a dozen trees of it for sale at present. Jacob Cocklin, of York county, and D. Miller, of Carlisle, have had trees of it on sale, I know, as I have got from them before now, when short of them.*

New Large Black Bigarreau.—In your work on Fruits and Fruit Trees of America, in describing the Large New Black Bigarreau, you attach a note, mentioning that it is the same as the Black Tartarian, in a former edition. Now I received grafts from A. Saul, three years ago; among other varieties the New Large Black Bigarreau, which is by no means a Black Tartarian; it is quite as large as the Black Tartarian, but much firmer fleshed, and about eight or ten days later—I consider it a first rate cherry. I mention this so that if Messrs. Saul & Co. have trees of the kinds sent out as the New Large Black Bigarreau, in the spring of 1848, they need not call them Black Tartarian, as they are not it by any means.

Bigarreau Monstreuse DeMezel.—On seeing a cut and description of the above cherry, in the Horticulturist, a few years ago, I think I was among the first to get hold of it. This year it fruited finely with me, and as there has been nothing said about it since its introduction into the country, and even some reputable catalogues omit a description of it, (which I think a very good plan, so long as a fruit is not known,) I will say a word about it. I have not at hand the volume of the Horticulturist, wherein it is described, but at the time of its ripening I considered the description above named, as correct as I would undertake to make one, except the fruit is not quite so large as the cut represented; it is quite firm, excellent flavored, and ripened a little after the Black Tartarian. I consider it a splendid cherry, and, from experience, believe it to be an early bearer, as a small tree but two years from the bud had three cherries on it about four feet from the ground; they were however far inferior to those on grafts on a large tree. S. Miller. *Union Cottage, New Leb., Pa., Dec.* 26, 1851.

The Improvement of Gardeners.—Sir: Being anxious to promote the profession of gardening, I will suggest the idea of gardeners and nurserymen, in the vicinity of large towns and cities, meeting to form libraries, to consist chiefly of books on Agriculture, Horticulture, Architecture, Mathematics, Botany and Natural History, and the leading periodicals embracing the above sciences, as issued from the press. It is for the benefit of both employer and employed, to combine the strictest economy with the most profitable results—and to act on that principle, a man must understand the laws of nature, and how those laws are assisted by the ingenuity of man. Whether it is in the proper tillage of the soil; or in the various crops raised from it; or in the construction and heating of buildings for growing fruits or flowers in an artificial atmosphere. The energies of the most

* The Triumph of Cumberland, and the Cumberland Seedling Cherry, have been confounded. I have them both on the same tree, and cannot consider them the same.

talented men have been employed to become acquainted with these laws, and they have left the various methods of their practice and their results, for the benefit of those after them. To purchase the various volumes necessary for the acquirement of this knowledge, would incur a greater expense than could be spared by one individual. This being the case, and feeling the want of such assistance, I would like to see a spirit roused among gardeners and nurserymen, that would, at a trifling expense to each inividual, effect the desired object.

In making an appeal to the public, to meet with the response wished for, it is necessary for them to be convinced of the utility of the object of the appeal. The persons appealed to in this instance are those connected with, or interested in gardening; and I am satisfied that those who are lovers of the art, will, themselves, assist and use their influence in their own immediate neighborhood, to cause others to lend a helping hand also. It would seem needless to enumerate the benefit that gentlemen and nurserymen would derive by employing active, intelligent men. To have such men, there must be facilities such as those suggested here, that would give them the information necessary to raise them to this standard. Now who are the employers that would not like to have such men, and how few of them there are?

The instances of stupidity and ignorance are too well known by every employer, and the little leisure of the present season could not be better employed than to form a plan and commence reading societies, before the gardening season commences. Should you find a place in your Journal for these few remarks, it may cause abler pens than mine to be employed in soliciting means for the fulfillment of the purpose, and the desired benefit be derived. Thomas Paxton. *Staten-Island, N. Y., Jan.* 16, 1852.

The Yellows.—Dear Sir: I have seen in the Horticulturist, many *speculations* and *suggestions* as to the cause of the Yellows of the peach tree, but none of them have been satisfactory to my mind, and I wish to suggest a new theory, or at least, one that I have not seen mentioned.

This disease may be *constitutional* and *infectious*; but having observed the commencement and progress of the disease, now prevailing in all the peach orchards, I believe, without exception, through the whole length and breadth of the Connecticut river valley, south of Springfield, I am fully convinced that, in this instance, it is an *epidemic*.

I first observed the disease in 1846, upon a few trees, by the premature ripening of the fruit, and the small wiry branches growing upon the main stems. This appeared simultaneously in different parts of the State, upon seedlings growing on poor soil, as well as upon the choicest varieties receiving the highest culture. Since that time the disease has prevailed to such an extent, that a large number of trees have already died, and a healthy tree can scarcely be found in this section of the state. I trust you will call out some of your Yankee correspondents, who will give us some light on this subject. Very resp't yours, C. C. Safford. *Cleveland, O., Jan.* 10, 1852.

New Fuchsias—F. Serratifolia.—The Fuchsia is fairly in the field as one of the fashionable and favorite flowers of the day. Hybridization and botanical discoveries are increasing its attractions with amazing rapidity. There is probably not another of the popular genera that has been so much improved within a space of say ten years. Its real progress may be dated from the introduction of the *fulgens* in 1837 or '38. The species and varieties that were in collections previous to it, were comparatively uninteresting. The distinct character, large foliage, and long elegant showy flowers, of that species, created a sort of *furor* among cultivators, and was the means of directing such attention to fuchsia culture and improvement, as has brought about, in so short a period of time, its present state of perfection. Hundreds of species and varieties are now in existence, and indeed hundreds of new ones are annually produced. They now occupy a place among the most brilliant objects of floral fetes, and they have become *specialities* among foreign growers, like the Rose and the Dahlia.

Amongst those of more recent introduction, *Serratifolia* is worthy of special attention, as possessing not only beauty but distinctness in its appearance and character. It is a species or sub-species introduced from Peru, by Messrs. Veitch of Exeter, England, through their successful collector, Mr. Lobb.

Its habit is stiff and bushy, leaves of a peculiar dark green with red petioles. They are verticillate, in fours, and the flowers are produced from their axils, one from each leaf. The flowers are one and a half to two inches long, the calyx or tube of a fine bright rose, the points of the sepals or division being green; the corolla is scarlet, with a shade of orange. Altogether, when in bloom, it is a beautiful plant. We propagated it last spring for the first, and had a nice stock of young plants, but were disappointed in its not blooming with the hybrid varieties during the summer. The plants were allowed to remain on the stage in the greenhouse all summer, without any shifting or care beyond a supply of water. In the autumn, when the plants were housed, the Serratifolia was placed among the others in a cold corner, and much to our surprise, they soon began to show blossoms. They were then brought forward, and continued to bloom finely through the whole of November and December, although not over 10 or 12 inches high, late spring cuttings.

Thus you see its season of beauty just opens when most of the others are to be laid on the shelf to rest; and this trait, I consider, entitles it to particular attention, for a beautiful plant like this, blooming in the dreary winter months, is a real acquisition. This late blooming suggests the necessity of a different mode of treatment from the summer flowering sorts. We would in future either turn out the young plants into the border about the first of June, and repot them in September, or we would plunge the pots during summer in an open border, and manage them something like Chrysanthemums. In either of these ways we will get good strong plants and bushy, (if kept topped) that will give a superb bloom in November and December. An English gardener in a late number of the Chronicle, states that he has been very successful with a treatment similar to this. His cuttings were struck early in February, and after being potted off, they were repeatedly shifted into a mixture of equal parts of loam, peat and leaf-mould with a little silver sand, until about the middle of May, keeping them well topped. By this time they were nice plants.

As soon as the weather permitted, I then turned them into the open borders where the soil was not over rich, choosing as dry a place as possible, and no farther notice was taken of them, till the end of September, when they began to show flower buds.

He then prepared the same soil for them as before, and carefully lifted them into suitable pots, according to their size, keeping them in a close pit for a few days, and syringing them every evening, till they had recovered from the check, giving air by degrees until they could be fully exposed. He then placed them in a shaded situation until they were housed with the other green-house plants. Two year old plants he cuts back when done flowering, reduces the ball when they commence growing, and shifts them like young plants. Under this treatment they bloom from November till February. The same treatment exactly will answer here, but the plants will probably bloom sooner and last not quite so long.

Among the hybrid varieties I have noted, *Pearl of England, Fair Rosamond, Manificent, Eliza Mielliez*, President (Youell) and *President Porcher*, (Miellicz) are first rate, and *Serratifolia multiflora, Serratifolia alba* and *Spectabilis* will take the same rank. P. B. *Rochester, N. Y., Jan.* 16, 1851.

Mass. Central Board of Agriculture.—This Association met at the green-room in the state house, at 10¼ yesterday morning. The Board was called to order by Hon. Marshall P. Wilder, the President, and Simon Brown, editor of the *New-England Farmer*, was appointed Secretary pro tem. The attendance was quite large, and much interest was manifested by the delegates in the objects of the board.

Reports were submitted as follows: From Mr. Wilder, delegate to the Hampshire Society; Hon. Allen W. Dodge, delegate to the Hampshire, Hampden and Franklin; Hon. John W. Proctor, delegate to Worcester Society, and also to the Bristol Society; Mr. Whitaker, delegate to the Plymouth Society; Hon. B. V. French, delegate to the Bershire Soc.; Hon. Dr. Gardner, delegate to the Franklin Society; Col. Page, delegate to the Essex Soc., and Ex-Gov. Everett, who attended the Middlesex Exhibition. Other reports will be submitted at a future time.

Lieut. Gov. Cushman, from a committee appointed for the purpose, reported a constitution and series of by-laws for the government of the Board. The constitution styles the Board the "Massachusetts Board of Agriculture." It continues the organization of the Board as before, with the addition of an Executive Committee of five. The report was accepted and the constitution adopted.

Rev. Mr. Sewell, from the Committee on

Manufactures, submitted the report of that committee. Mr. WILDER, from the Committee on Agricultural Education, submitted a series of resolutions, taking high grounds upon that subject. Mr. DODGE, on Milch Cows and Dairy Products. Mr. GORHAM, on Stock.

AFTERNOON SESSION.

Professor FOWLER, of Amherst, submitted the following resolution:

Resolved, That the President of the Massachusetts Board of Agriculture be requested to enter into a correspondence with the Presidents of the several state societies, and of other agricultural associations, on the subject of the expediency of calling a national convention for the purpose of taking into consideration the interests of agriculture in the United States.

It was discussed and unanimously adopted.

Mr. WILDER then nominated for the Executive Committee of the Board, the following named gentleman: Hon. EDWARD EVERETT, JOHN W. PROCTOR, J. H. W. PAGE, B. V. FRENCH, Professor FOWLER. They were unanimously elected.

The second reading of Mr. Wilder's report on Agricultural Education was called for, and given. The following resolution was then offered by Lieut. Gov. CUSHMAN:

Resolved, That the report of the Committee on Agricultural Education be referred to the Executive Committee of this Board, with instructions to present the same to the Legislature in behalf of this Board, and urge the passage of such laws as may be necessary to carry out the principles and views contained in said report.

[The report asks for the establishment of a State Department of Agriculture, with officers commensurate with the importance of the duty to be performed; suggests the propriety and expediency of reserving a portion of the proceeds of the sales of public lands, and devoting such sum to the promotion of Ag. Science; and in short claims for Agriculture the same fostering care which is bestowed upon other interests.]

After a lengthy discussion upon the general subject of Agricultural Education, and the best mode of securing it, the resolution was adopted unanimously.

PENNSYLVANIA HORT. SOC.—The stated meeting of this Society was held on Tuesday evening Jan. 20, 1852. E. W. Keyser, V. P., in the chair. A few objects of interest were presented, notwithstanding the severity of the weather, which were—a beautiful basket of cut flowers, of choice kinds; among them were a raceme of the *Stanhopea maculata*, and specimens of the *Cypripedium venustum*, and a moss covered urn, bearing fine flowers. Also another beautiful flower of the Victoria Regia, the thirty-eighth produced by Mr. Cope's plant; the bud was cut and brought in, carefully protected from the cold, and when taken out it expanded handsomely, and was a perfect specimen, of smaller dimensions than those shown at recent meetings. Dishes of Pears were shown—the "Niles" variety, from Wm. V. Pettit, the Easter Beurre from H. W. S. Cleveland—a winter variety, from N. Lott, Reading, Pa., and of Apples, the "Northern Spy," from J. J. Thomas, Macedon, N. Y.; the "Keim" from C. Kessler, Reading. There was a large table of culinary vegetables from Miss Gratz's garden.

The library committee presented their annual report, by which it appears that the library contains upwards of nine hundred and fifty volumes, on subjects solely appropriate.

The special committee on nominations, submitted a ticket to be voted for at the annual meeting, and a report descanting fully on the subject of the President's determination to decline a re-election, expressing regret thereat, and fully setting forth his services, and the advantages he, by his liberality, has rendered to the cause of Horticulture in this community; likewise alluding to the course of proceeding of the Society in the encouragement of the cause, by a liberal expenditure in its awards, and anticipating a hope that so useful a society may yet be the recipient of donations and legacies to enable it to establish what was originally contemplated, a Botanic Garden; ending with a recommendation that a committee be appointed to devise some suitable testimonial to Mr. Cope, in appreciation of the good he has effected.

The Annual Meeting was organized by calling Mr. J. J. Vanderkemp, to the Chair, and appointing J. E. Mitchell Secretary. The election for officers resulted as follows:

President—Gen. Robert Patterson.
Vice-Presidents—Jas. Dundas, E. W. Keyser, Joshua Longstreth, Dr. W. D. Brinckle.
Treasurer—John Thomas.
Corresponding Secretary—Thomas C. Percival.
Recording Secretary—Thomas P. James.
Professor of Entomology—Samuel S. Haldeman, A.M.
Professor of Botany—William Darlington, M. D.
Professor of Horticultural Chemistry—Robert Hare, M. D.

A committee of five members to devise the suitable testimonial (as recommended) to Mr. Cope, was appointed.

THO. P. JAMES, *Recording Secretary.*

Answers to Correspondents.

B. W., (Cayuga.)—The fruit buds of the peach are usually destroyed when the thermometer sinks to 12° or 13° below zero of Fahr. You may ascertain now if the mischief is done, by slicing a bud across with a sharp knife; if the center or heart of the bud, is brown or black, instead of green, (its natural color,) there will be no fruit from that bud. It will blossom, but the fruit will not set. It does not always follow, however, that even this temperature will destroy the embryo fruit—because if the bud thaws gradually, in cloudy weather, it will escape—the sun striking in the branches after so cold a night, does the harm, and hence trees quite in the shade, often escape entirely, though equally exposed to the frost.

SELECT ROSES.—*A Young Florist*, (New-York.) We recommend one dozen hardy ever-blooming roses, as follows: *Perpetuals*—Madam Laffay, Giant des Batailles, Baron Prevost, William Jesse, La Reine, Duchess of Sutherland, Aubernon; *Bourbons*—Madame Desprez, Bouqet de Flore, Souvenir de Malmaison, Pierre de St. Cyr, Mrs. Bosanquet. A dozen best Roses for pot culture, are the following: Saffrano, Princesse Marie, Souvenir de Malmaison, Devoniensis, Compte de Paris, Mrs. Bosanquet, Eugene Beauharnois, Niphelos, Queen of Lombardy, Hermosa; and for larger pots, the

branches to be trained, Solfaterre, and Cloth of Gold. The best hardy Climbing Roses for "the most northern states," are Boursalt Elegans, Blush Boursalt, Queen of the Prairies, Baltimore Belle, Superba, and Eva Corinne. Wiegela rosea, is, so far as tried, hardy all over the north.

SELECT FRUITS.—*Ibid.* The best half-dozen Strawberries for family use, are Large Early Scarlet, Burr's New Pine, Hovey's Seedling, Hudson, Crimson Cone. The best half-dozen Plums, do., Green Gage, Imperial Gage, Purple Favorite, Smith's Orleans, Coe's Golden Drop, Frost Gage.

MAGNOLIAS.—*F. T.*, (Maine.) The only Magnolia known to be hardy in Maine, is the Cucumber Tree, *M. accuminata*. But as *M. conspicua*, and *M. soulangiana*, have borne 20° below zero, on the Hudson, without injury to any part except the flower buds, you might make trial of these beautiful Chinese varieties with confidence. Tulips kept out of the ground all winter, will be worth very little in the spring.

TREE SEEDS.—*J. M. M.*, (Tompkins county, N. Y.) Seeds of some of the ornamental trees may be had of Thorburn & Co., New-York, and Buist, Philadelphia; but a general assortment is not kept anywhere in this country. Mahaleb cherry stones, cannot probably be had short of France.

BLACK ROSES.—*A Lady*, New-Haven.) The old story of grafting a rose on a black currant, is a pure absurdity; first, because the graft would not take, and second, because the color would not be changed if it did. The darkest roses are only a dark reddish purple; the black hollyhock is the most decidedly black flower produced by cultivation.

LAWNS.—*W. R. S.*, (New-London.) If you wish a lawn at once, don't commit the folly of planting oats, or any other crop, with your grass seed—but plant only the grass seed itself, three times as thick as usual, and you will have a close turf by July. The soil must be made deep by trenching or sub-soil plowing, if you wish to maintain the verdure through the season. Either red-top or blue-grass, mixed with white clover, makes the best lawns; three-fourths of either of the former, to one-fourth of the latter. Sow as early in the spring as the ground is mellow and dry enough, and roll the surface perfectly smooth afterwards.

MONARCH PEAR.—*A Pomoligist*, (New-Bedford.) Our opinion is, that in spite of the high reputation made for Mr. KNIGHT's pears abroad, not one of them is above second rate in the United States—some of them far below that.

OSAGE ORANGE.—*W. Brenner.* This unusually cold winter will settle the hardiness of this hedge plant in all parts of the country. But you must remember that because a young hedge two years old, is cut down to the ground, it does not follow that a full grown hedge would not defy the frost—the wood of the first being sappy from luxuriant growth—that of the latter being firm and mature, from constant pruning and stopping the hedge.

GRAFTING.—*P. Wilson.* In grafting over full grown orchard trees, it is the better mode to graft the top branches the first year, and the side branches the second year. This equalizes the distribution of the sap, and produces a much better head. Rhode Island Greenings and Baldwins, are more regular and heavy bearers than the others in your list.

GREEN-HOUSE.—*M.*, (Albany.) We suspect the want of healthy growth in your greenhouse, is from the high temperature at which you keep it during the night. This forces the plants to grow most in the dark—with very little pure fresh air to grow in. Keep the temperature always much lower at night than in the day time, and continue, if possible, to introduce fresh air warmed—by passing it over the flues or furnace in some sort of air chamber.

KEEPING FLOWERS FRESH.—*A Young Reader*, (Charleston.) Flowers fade so soon because the juices of the leaves evaporate through the pores—and the dryer and warmer the room, the more rapidly the flowers fade. If you wish to keep them fresh for a long time, keep them under a glass shade; or shut up a favorite boquet at night, in a covered box, sprinkling the flowers plentifully before hand. In the morning you will find them quite fresh—they having taken up moisture through the pores of both leaf and flower.

CHERRY STOCKS.—*J. T.*, (Moundville, Wis.) The choke cherry, (*C. serotina*,) has been used as a stock, but it is somewhat difficult to make the cultivated varieties take upon it. The quality of the fruit is also somewhat deteriorated by the stock.